Life in the Country.

NOW that cities have been tried and have been found a failure by many in pursuit of happiness—whether it be because business is unsuccessful, or that their minds find little satisfaction and repose in crowded thoroughfares—the country and its occupations will find new votaries. Some have formed ecstatic anticipations of the pleasure which rural life produces; they have been so wearied by the search for money, by erroneous estimates of the profits of trade, by mistaken confidence in human honesty, that they are ready to bury themselves in comparative solitude, hoping to surround their firesides with domestic pleasures, books, a few friends, and content.

Take heed, unwary citizen, how you precipitate matters. "Carking care" is not confined to towns; with the human mind, wherever it goes, the seeds of dissatisfaction accompany it; we cannot have everything to our minds in city rows; in villas it is the same; in cottages the difficulties are undiminished; the palace no less than the hovel contains the same ever floating fungus of disappointment. A city man suddenly transported to fields where nature holds sway, needs preparation for the change; some seeds will not germinate without soaking; the store-keeper who scarcely knows a pear from an apple-tree, needs information before he begins to plant. But most he needs to know how to pass his time without the customed ledger, or the society of mere acquaintances that have helped to chat life away.

We once knew intimately a fat merchant replete with cash, who won the hand of the most beautiful and accomplished lady of her day. To be near her friends he bought, built, and settled in the country. There chanced to be a neighborly farmer of elegant leisure, to whom trees were companions, walks with nature, society; the fresh air was poetry, books his delight, and his pen gave happy employment on a dull wintry day. Poet he was in the estimation of those of his contemporaries who chanced to know his merit, and though few, a fitting and appreciative audience listened to his humorous, his witty, or his religious musings. The village newspaper, then with only a very limited circulation, and that strictly local, caught up, whenever the author's modesty could be overcome, his fun, his satires on the things around him, or his happy musings when the world wagged to suit the rhymer. His life resembled that of Cowper's; he was a bachelor looking from the loop-holes of retreat on a world then just about to ruin itself with steam and railroads. These he eschewed, and, we believe, though a steamboat left and arrived at the village wharf more frequently than every day, he never put his life in danger by traversing her decks, and, if we rightly remember, gave her but one sorrowful glance. He was a resident of New Jersey—not distant from Philadelphia—a city in which he slept but one night, and was so disturbed by the noises that no inducements were strong enough to take him there again. In his fine inherited farm he took great delight; he was the reverse of morose; he was genial in all things, and in a select circle of near relatives was not only greatly admired, but beloved. He was no hermit either, but daily paid a visit to the village post-office for his most liberal supply of books, papers, and periodicals, and in a chat with favorite connections threw off sparks of information and humor which have left their impress on another generation. At home, too, the few who knew him well, found him genial and hospitable. We shall have something more to say of this almost unknown American poet and gentleman. To day we

devote a small space in order to insert two playful letters appropriate to the *Horticulturist*, which he addressed to our corpulent friend and his wife on their farming prospects, hoping to interest our readers in what we may hereafter copy:—

TO —— ——;

ABOUT TO REMOVE FROM THE CITY TO RESIDE ON A FARM IN NEW JERSEY.

The rural mansion's reared at last,
The toil of building almost past;
And now, while winter's stormy gale
Around you scatters snow and hail,
Some evening hours are spent, I guess,
In planning future happiness—
Deciding where these shrubs shall grow,
Those fruits expand, or flow'rets blow;
Where waving pines shall throw their shade,
And where the verdant lawn be made;
Which fields for grain, and which for clover,
And conning great and small things over.
I love these plans—they keep the mind,
And body too, alert and gay,
For every hour employment find,
And banish hyp and gloom away.

Thou'rt travelling now, my friend, the road
Which leads, I think, to joy's abode;
But though not wond'rous wild and rough,
'Tis strewed with trivial jolts enough.
Though ills of various kinds compose
The farmer's long, long list of woes,
Thou soon wilt find the laboring race,
Should occupy no second place:
Their time and toil though dearly bought,
One half at least are good for naught.
(In this, our land of milk and honey,
Where earth is plentier far than money,
The *careful* and *industrious* poor
An independence soon secure.)
Item—'tis spring—the orchards bloom,
And every zephyr breathes perfume;
'Tis time the Indian corn was planted,
For this, some extra help is wanted;
Away to this, and t' other neighbor,
To find a man to do this labor:
And when the work of hiring's done,
He'll play three hours, and labor one.
Once, on a time, a farming brother,
Returning from some jaunt or other,
His train domestic thus addressed,
To know how business had progressed:
"Well Richard—I've been some time out,
What work have you, pray, been about?"
"Helping Tom, sir."
"'Tis well, Dick, thou hast acted right,
United hands make labor light.
Thomas, I see the corn wants hoeing,
Pray, what have Dick and you been doing?"
"Nothing, sir."

The grass is cut—is turned—is dry—
Dark clouds proclaim that rain is nigh;
But lo! the wheel has lost a spoke,
The gears are rotten, shelvings broke;
Ere all these things can be amended,
The time is past, the shower's descended.

Thy neighbor's herd of hungry swine—
As lean as Pharaoh's famished kine—
Assail thy fence, let down a bar,
And with thy wheat wage cruel war;
With snout insatiate tear the ground,
And spread wide devastation round!

When the first sprouting grass is seen
To tinge the riv'let's side with green,
Thy men permit the cows to wander
From mead to mead, up here, down yonder;
Ruin the lots through which they stray,
And lose their appetites for hay,
Till each dry bone-betraying hide
Seems Poverty personified;
Their legs refuse to bear their weight,
And crows receive them soon or late.

Through some unlucky youngster's fault,
The pigs have broth too hot, and salt;
Hence measled shoulders, scalded throats,
And varied ills that pester *shoats*;
Dogs find thy sheep delicious picking,
A mink each night purloins a chicken,
Rats share the corn, and mice devour the bacon,
The turkeys, geese, and ducks, by two legg'd rogues
are taken.

And will thy stomach, friend, be quiet
On farmer's plain substantial diet;
Thy appetite look pleased and clever
At salt and dried, recurring ever?
(For ah! expect not here to meet
The varied fare of Market Street.)
And canst thou, too, thy hunger stay
With broken meat on washing-day?
If not—tell John to kill the calf,
And send some brother farmer half:
And when he slaughters veal or sheep,
In turn take what he cannot keep;
Get, for thy well-fed, famished veal,
On which a hawk might make a meal;
And for thy tender, juicy mutton,
Such as is fit no dish to put on.

Thus, anxious friend, for thy repose,
I've warned thee of *some* coming woes,
That during winter's blustering weather,
While fenced from tempest—calm—secure—
Thou might'st a stock of patience gather
For the next year's expenditure.

TO THE WIFE OF —— ——;

ON THE SAME OCCASION.

As some pert scribbler, doubtless vain of knowing
Somewhat of digging, ploughing, harrowing, hoeing,
Has deemed it proper in this way t'impart
His wond'rous knowledge in the farming art;
I, too, would humbly offer to *thy* view
Of good advice a homely scrap or two;
Let then the following precepts, short and plain,
Though clad in rustic garb, attention gain.

No useful plant admires encroaching weeds,
No healthy chick from egg unsound proceeds;
From milk or cream, with garlic tinctured strong,
Sweet butter comes not without churning long;
If meddling witches should thy churn infest,
To drive them from it, what device is best,
Fain would I tell, but fear to tell amiss,
For e'en the knowing disagree in this—
To luckier hours the business some adjourn,
And some put—sly—a dollar in the churn.
When night extends her sable curtains round,
Constructing cheeses be thy maidens found,
At morn's first blushes let the work be stayed,
For cheese should always in the dark be made;
So flies no knowledge of th' affair will gain,
But the fair fabric firm for years remain.

On no pretence permit or corn or hay
To take the gardener from his charge away—
Foul weeds will mark his absence with delight,
Spread their long columns with resistless might,
In countless throngs obnoxious fill the place,
And crush the eatable and floral race.

By long experience, rotten eggs are found
Near twice as long in hatching as the sound;
Hence those to whom the worth of time is known,
Let their hens hover o'er the good alone;
To know their state the wise have various ways—
Some, patient, hold them to the solar blaze;
Some, east and west attentive list'ning shake 'em,
And some, more cautious, think it best to break 'em.
When infant ducklings first delighted stray
To the loved stream, and cleave the liquid way,
Observe their wanderings with a watchful eye,
For varied dangers there in ambush lie;
The tortoise finds them most delicious food,
And pikes, voracious, soon will thin the brood;
And oft, when homeward bends the waddling train,
To spread their plumage to the sun again,
Prone on their backs they fall, and there must lie,
To sleep forever, if no help is nigh.

But oh! permit no cruel hand to lave
The new-born turkey in the chilling wave,
Nor, heedless of his pity-pleading note,
Thrust nauseous pepper down his burning throat;
Forbear to tempt him corn or cheese to eat,
Let eggs and onions form his savory treat:
When winged with wind, impetuous showers descend,
The shivering urchin from the storm defend;
So shall he soon rove distant meadows over,
And guard from hostile insect tribes the clover.

When louring clouds obscure the solar ray,
And eastern breezes chill the drizzling day,
For washing house bid every hand prepare—
And let them not the wholesome deluge spare:
Of chairs and tables clear the wondering rooms,
And call the tribes of buckets and of brooms;
To some far corner, undisturbed and dry,
From mops and water bid thy husband fly:
Then o'er the floors let rushing waves extend,
Roll through the entry, and the stairs ascend.
So will in time the air within, no doubt,
Almost as pleasant prove, as that without.

But my best maxims trivial must appear
To one who has such able counsel near;
Th' accomplished housewife's various arts, full well
The much loved mistress of * * * * * * can tell.

JULIEN APPLE.*

Julian. Juling.

A SOUTHERN apple, of uncertain origin. Fruit, medium, roundish, tapering somewhat to the eye, rather one-sided. Calyx, small, in a narrow basin. Stem, short, in a moderate cavity. Skin, thin, yellowish-white, striped and marked with carmine, of a beautifully waxen appearance, sprinkled sparingly with whitish dots. Flesh, white, tender, juicy, and fine flavored; indeed, the finest summer apple known North and South. Middle of July in Georgia.—*White's Gardening for the South.*

THE GRAPE.

BY SAMUEL MILLER, CALMDALE, LEBANON COUNTY, PA.

IF the experience of one who cannot attend most of the horticultural exhibitions is deemed worth a place in your journal, the following is at your service.

Circumstances preventing me from attending any of the horticultural and agricultural fairs, this fall, except our State one at Philadelphia (where, *by the way*, the show of grapes was rather a slim one), I took it upon myself to note closely my own grapes, and those that have been sent me from other places, by my friends.

Isabella.—Not a ripe berry on my grounds, although a number of bearing vines. [This fruit is uncertain in Pennsylvania, and, now that we have better, will gradually be superseded here.—ED.]

Catawba.—A total failure, except where they are trained against the east and south side of my house (brick wall); about one-half rotted; the balance were as fine as could be, and would have eclipsed by far any on exhi-

* See Frontispiece.

bition at the State Fair at Philadelphia. [Still, it is inferior to the newer Rebecca, Delaware, and Diana.—Ed.]

Clinton.—But few plants under cultivation; was, as usual, fine; only fit to eat when very ripe.

Diana.—A dozen or two bunches on a young vine; beautiful, compact bunches, and of excellent quality; will become one of my standard varieties.

Canby's August.—A very good grape, quite early, and said to be an excellent bearer; had a few bunches sent me; they were not quite average specimens.

Wilmington.—A very handsome and good white grape. Bunch, handsomely shouldered. Berries, oval, medium size, and of a greenish-yellow color; but all such are termed white. Supposed to be a native; quite hardy and productive.

Clara.—A most beautiful and excellent grape. Bunch, quite large. Berries, medium size, sweet, and high flavored, with little or no pulp. A seedling of Mr. Raabe, of Philadelphia; will most likely compete with Rebecca, being white like the Rebecca, if its hardiness (which is not yet fully tested in the open country) is once established. It has stood exposed, without injury, the last two severe winters, *in* Philadelphia.

Raab, or Honey.—Bunch, a little below medium, not shouldered, very compact. Berry, below medium, deep red, and as sweet as honey; to my taste, as good as the best; scarcely any pulp at all; *said* to be hardy.

Brincklé.—Another of Mr. Raab's seedlings, somewhat like Frankindale, but decidedly better. This, I fear, will *not* stand exposed to our severe winters in the country, although hardy in the city.

Emily.—Described by some nurserymen as a white grape, which it is not, being red like Catawba; had no taste of it yet, but know it to be one of the most vigorous of growers. I have vines, struck in the house last February, from eyes that are now ten feet high.

Cassady.—Why has this beautiful and superior grape been allowed to lay so nearly unemployed? On a little bit of a plant, set out in the fall of 1855, I, this season, had at least two dozen bunches of very handsome Cassadys, which fruit was pronounced by some very good judges as the best on the table, where Catawba, Concord, Isabella, and a number of others were shown. Vine, hardy, and a strong grower. Bunch, medium. Berry, hardly medium, the whitest of all the natives, but little pulp, sweet, with an aroma not to be excelled by any foreign variety.

Concord.—Needs no comment. When well cultivated in our latitude, is a first-rate grape [we do not agree—Ed.]; and for market for the masses, will hold the lead for the present. [Then the masses don't discriminate.—Ed.] When grown here, it is far superior to those grown in its original place, or anywhere in the North.

Elsinborough.—A first-rate *little* grape, and ought to be in every collection.

Ohio, or Segar-Box.—I have had a strong vine these four years, and never yet had a ripe berry; mildews badly.

Louisa.—A seedling of my own; resembles Isabella very much, but has fewer seeds than that or any other American grape with which I am acquainted. Free from rot or mildew, strong grower, and hardy. A prodigious bearer, with but poor culture, and will, in size of bunch and berry, quality of fruit, &c., compare very favorably with most American grapes.

Rebecca.—Enough, but not one word too much, has been said of that grape. I have two vines growing, but they have not fruited. Had a taste of a berry of it at the fair, through the kindness of Dr. Brincklé.

Mary Ann.—A seedling, raised by J. B. Garber, of Columbia. Bunch, medium

size. Berry, do., quite oval, black, with a peculiar brownish cast. Skin, not thick. Pulp, small, and a rich, exceedingly sweet flavor. Ripens among the very earliest of our good grapes; strong grower, hardy, and an excellent bearer.

Albino.—A white grape; originated with the same as the last named. I have not yet seen the fruit, but it is said to be good, and quite handsome, hardy, and vigorous.

Delaware, of Ohio.—The head and front of all American grapes, when quality is brought into question. For a grape as large in bunch and berry, and productive, hardy, and free from mildew and rot, as the Concord, and as good as Ohio Delaware, I would stop but very little to offer a premium of one hundred dollars to the originator, to be produced within the next five years. But what would be a hundred dollars to such a lucky individual? his fortune will be made.

Le Noir, Norton's Virginia Seedling, Herbemont's Madeira, are all well worth cultivating.

Sage, or Charter Oak, Northern Muscadine, Early Amber, Early August, &c., are only worth cultivating where the fox flavor *is desirable!*

Black Hamburgh, Sweetwater, Canadian Chief, Concord, and Isabella, were sent me from Canada West; the three first named, and Isabella, would have weighed very near a pound to the bunch. The Concord is far inferior to those grown here, in point of flavor, although the berry is larger than mine. But such Hamburghs, Sweetwater, and Chief, make one almost wonder what glass-houses are for, for these were grown in the open air, and as free from rust as a new pin. The mode of keeping the mildew from them, shall be given to you in some future communication by me, unless the grower of these splendid grapes gives it to you himself (W. H. Reade, of Port Dalhousie, C. W.), who is one of those substantial horticulturists and who does a thing right when he undertakes it.

That the knowing ones may be helped to distinguish a Canadian Chief from a Sweetwater, the following will be a pretty correct guide: Canadian Chief is more compact and shouldered in the bunch, the berry more inclined to oval than round, and has an amber tint not common to Sweetwater; not quite as sweet as the latter, but more sprightly; has not often more than one seed, and that straight and blunt at the small end, while Sweetwater has usually two, and sometimes three seeds, which are a little curved and pointy at the small end.

No one need call the Chief a native, nor need he expect it to stand our winters unprotected; those who do, will be disappointed.

Marion.—Bunch, medium. Size of berry, do.; black, very round, harsh, and unpleasant, until cool weather, when it is rich and agreeable. Juice, exceedingly dark, and will make a splendid wine; will most likely prove valuable at the North.

Logan.—Quite early. Bunch and berry, good size, sweet, and excellent.

Herbemont.—Beautiful, compact bunch. Berry, below medium; little or no pulp; rich and sugary. A little tender, I fear, but well worth a fair trial; will make a rich wine.

Clapier.—Although a foreign variety, has fruited splendidly in the open air. Bunches, of good size, oval. Berry, white, and very good.

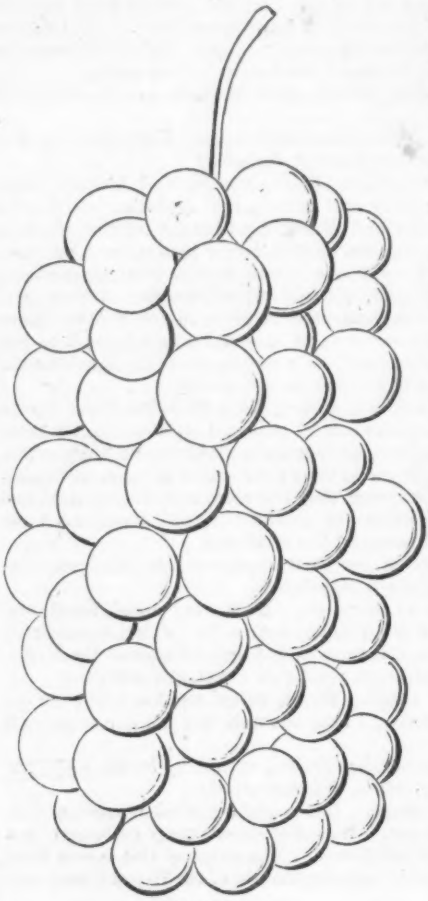
Swatara.—An early, sweet, little grape. Bunch and berry below medium size, but as compact as corn grains on a cob. Was discovered, many years ago, in a ravine through which the Swatara River flowed. The original vine is now forty feet under water, there being a reservoir built for the use of the Union Canal, now over where it grew.

Lehman.—A splendid, large bunch and berried grape; nearly white, but rather late, unless in a good exposure. Raised by Wm. Lehman, of New Lebanon, from seed of the Bland, crossed by Isabella.

I have now fifty varieties of native grapes under trial, and have the promise of some twenty more; all shall have a fair trial, if I live, and the results be given to the public. Fifteen foreign varieties just started, which shall have a trial in the open air, and if they don't do well, shall have a house built to run them into.

Out of the fifty varieties under way, I see an occasional sly fox beginning to show himself; but if one out of five of the new ones will prove worth cultivating, I will be satisfied.

Fig. 1.



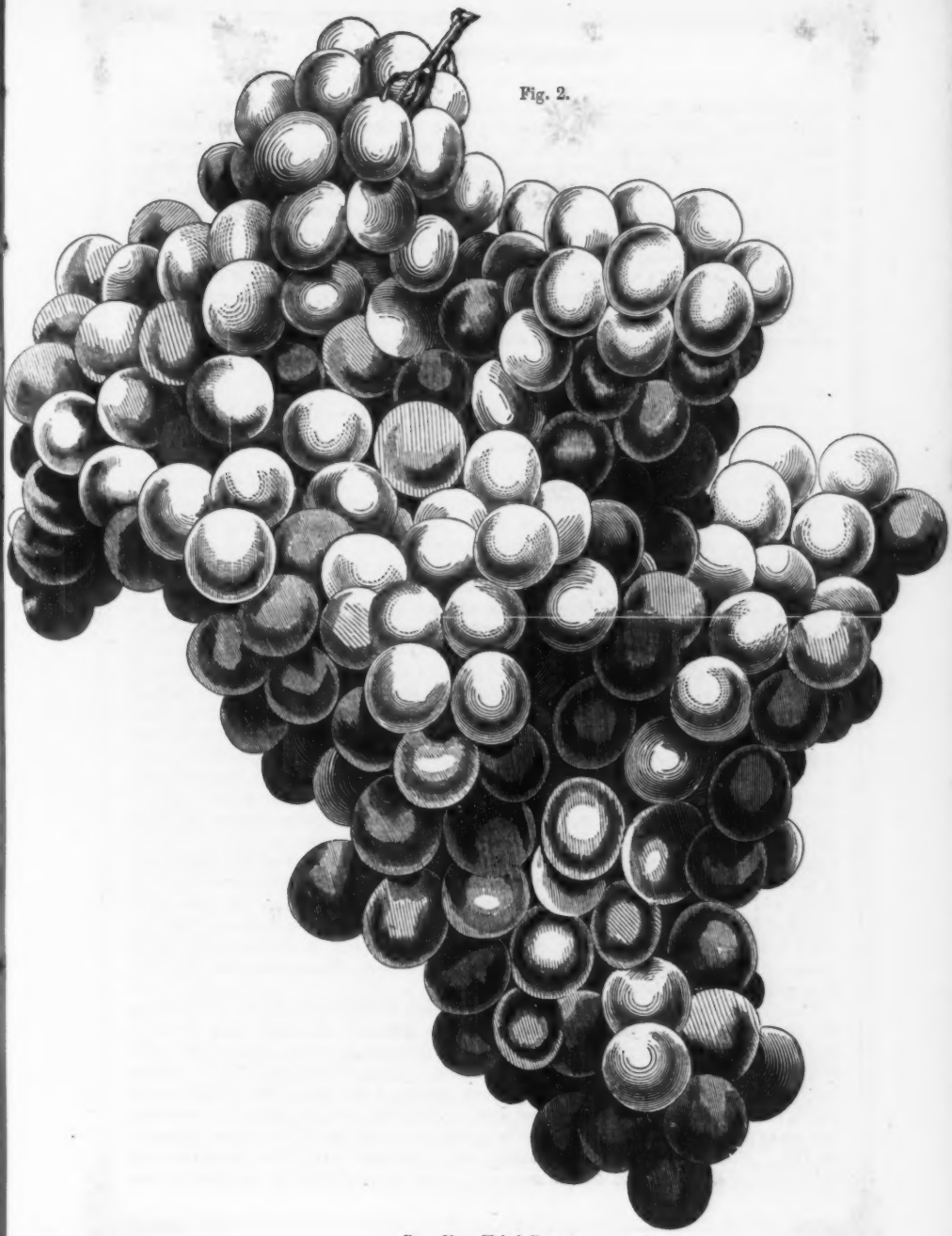
Rebecca Grape.

[*Rebecca Grape.*—A valued correspondent reminds us that no figure of the Rebecca grape has been given in the pages of the *Horticulturist*. On examination we find this has been the case, owing to an accident to the best bunches we have received; and we now supply a cut, Fig. 1, copied by permission from Charles Downing's new book on fruits, which is a very fair representation, though the great compactness with which it grows can scarcely be said to be given.]

[*Canadian Chief.*—As regards the Canadian Chief grape, there seems to have been some hasty decisions; we will not say these were induced by prejudice or a feeling of distrust, but we feel very sure that no thorough trial has been made of it in this latitude. With a view of making the experiment, we procured, the past fall, eight vines from Mr. G. W. Fearman, of Hamilton, Canada West, and they are now planted, in this neighborhood, under favorable auspices. The box of the grapes sent us in the fall of 1856, proved to be scarcely ripe, but their appearance was certainly much in their favor, and we had a wood-cut made of the largest bunch immediately. It proved *too large for our pages*, and was thus laid by, but by reducing one side of some half dozen berries, we are enabled to insert it on the opposite page, Fig. 2.

The fact that this fine bunch of grapes was produced in the open air in Canada is established, but it is said the grape vine is not hardy. Whether it is necessary to lay it down every winter and to cover it or not, such bunches of

Fig. 2.



Canadian Chief Grape.

grapes are worth any trouble of that kind, and we see no reason why it may not be cultivated without such care further south; certainly it should have a fair trial before decisive opinions are hazarded. It has received the go by in some quarters, but notwithstanding has been in such demand as to make it difficult to procure a root. The whole vine was layered last year, and no grapes ripened on it. We have a fine photograph representing it in 1855, and showing a most prolific crop, with bunches about half as large as the heads of the first owner and of Mr. Fearman, who are pointing to them from each corner of the picture.

We wish justice to be done to all such introductions, and whether the vine be of foreign origin or not, if it ripens such fruit in Canada, and "probably" will ripen it better there than elsewhere, as Mr. C. Downing suggests, it is entitled to a fair experiment in more than one climate.—ED.]

GARDEN VEGETABLES, NO. 13.—RHUBARB.

BY WM. CHORLTON.

RHUBARB, or, as it is often named, Pie Plant, is composed of a number of varieties that have emanated from two species of the genus *Rheum*, viz: *R. rhaponticum* and *R. undulatum*, each of which in a natural state is very distinct in external appearance. The former has furnished most of the green and more cylindrical-stalked sorts, and all the tardy ones; while the latter gives us the semi-cylindrical, red, and earliest kinds. Cross breeding, however, has been now carried out so far, that the true specific difference is nearly obliterated, and the result is a great improvement in size, productiveness, and flavor. So much has righly directed skill accomplished in this case, that a drastic acid leaf, not much larger than a yellow dock (to which these plants are nearly allied) has now attained to the dimensions of four feet in diameter under the best of culture, and a greatly superior sprightly acid taste in the three feet long and correspondingly thick leaf-stalk, the only part used for culinary purposes. Some authorities say that a third species, *R. hebridum*, has served a part of duty in this general amalgamation; but, as the name indicates, we doubt if this is, or ever was, anything more than a natural bastard; others, again, assert that *R. palmatum* furnishes the officinal rhubarb root, while the fact is, it has not yet been accurately determined which is the true and genuine article. Likely enough many sorts are manufactured into what should be from one source only, and that the greater part of the difference in medical action arises from this cause. These medicinal properties are purgative, tonic, and yet astringent, and there is little doubt but we get all the three in a modified form from the parts used in cookery, which makes it self-evident that we could not use a better alterative, in a reasonable quantity, as food at the time of change from the extreme winter's cold to summer's heat; the season when rhubarb is in greatest abundance.

The genus *Rheum*, collectively and aboriginally, inhabits the wastes of Siberia, the plains of Tartary, and the lofty mountains that cut off India from the cold table land to the north; and in cultivation it delights in a cool, moist, but well-drained situation. As an edible, it is invariably improved by high culture, and is best suited in an open, light, deep, rich soil, having a porous under base, through which the superfluous water may pass away. Nothing will be gained by stinting this plant; consequently, if we wish for profit, we must trench deep and manure heavily. For a general and permanent crop, proceed as follows: Early in the fall choose a situation and soil as near to the above described as the limit of the

place will admit of; the exact circumstances matter little, and mark off the size of the intended required space. This for a large family may be about thirty square yards, and will accommodate as many plants. Commence at one end, take out a trench two feet deep, by two feet wide, wheel the soil to the opposite end, have in readiness a good quantity of rotted barn-yard manure, cover the bottom three inches thick, and over this a portion of soil from the next excavation that is to be, mixing a portion of each as the work proceeds, so that when the next trench is opened a like two feet, the first shall have received six inches in depth of the manure. At the end of two or three weeks turn over the bulk, mix again, and level down. We are now ready for planting. Mark off distances of three feet square, and place one plant in each, so that the upper part may be elevated some three inches above the general level, spread out the rootlets carefully, and cover from the sides, leaving a small mound sloping upward towards, and two inches above the crown. Spread over the whole surface two inches of rotted manure, and all will be right for the winter. The best roots for planting are those which have been separated into single buds the season previously; but when such are not to be had, the large stools may be divided into such, retaining a quantity of healthy roots to each. A planting thus made will continue productive and furnish excellent quality for five or six years, if an annual mulching and forking be practised. It is also advisable to cut out the flower-stalks immediately as they are discernible, as if left to produce seed they exhaust the roots considerably.

When there is an ambition for developing this plant to its greatest capacity, it is requisite to make a plantation every year, that of the present doing duty for the next. For this purpose, in the early part of summer, prepare, as before stated, so as to be ready for planting the latter part of June. At this time examine your old roots; choose those which have good crowns; take up carefully; remove all but the youngest unexpanded leaves; divide each offset, and retain all the roots possible. Plant and mulch as before advised. If the weather is, and should continue to be dry, keep the ground moist by copious watering. By this process the active circulation is retarded during the summer months, and the after centralization, which produces the flower stems in embryo, prevented; and there is time enough through the autumn to furnish a solid leaf-forming bud with abundance of roots that will absorb any amount of liquid manure, if not applied too strong, when the leaves are somewhat expanded the next spring. At this time put on an extra mulching, and every week or ten days give a thorough soaking with the liquid drainings of the dunghill or hog-pen; this latter should be weakened by an equal quantity of water, and both should not be in too fresh a state. Guano diluted, one pound to twelve gallons, and freely used, will answer almost equally well. If there is *good drainage below*, the ground may be saturated with these substances; but care should be exercised in the application, as the central crown would be rotted by frequent contact.

It will be seen from a careful perusal of what is here written that there is a previous preparation of the plant before these powerful stimulants, so plentifully supplied, are recommended, and that its physical condition is ready to receive them. Under any other circumstances they would do more harm than good. Never apply such things to any plant unless it be healthy at the roots, and in active growth. By this process I have grown rhubarb stalks three feet long, and seven inches in circumference, the leaves being four feet in diameter; and others have done, and still may do better with the right sorts.

Forcing.—Rhubarb admits of being forced very readily, and thus will take the place of apples in pastry. The same practice and conveniences as are recorded in the November No. (1857) for asparagus, will apply to this in all the detail;

but further, if the plants be in the open garden, they may be forced where they are located by simply covering barrels over them, and heaping around and above with hot stable manure and tree leaves mixed, sufficient to maintain a temperature of about 60° inside the barrels. Be careful that the heat does not become too great, or the roots will be scalded. Some two weeks will be gained in the stalks being earlier ready for use by the covering with barrels alone, provided they are kept on all winter. It will be understood here that the development is carried on in the dark, and the plants will require to be fully exposed to light and air when the growth becomes weakened. The blanching of rhubarb in this way renders the texture so brittle and tender, that peeling is unnecessary; the acid is more sprightly, and the astringent taste reduced, while in the red colored kinds the color is a beautiful pink, or carmine.

There are many varieties in cultivation, but the following will answer all purposes and are the best.

Myatt's Linnæus.—First quality in all respects, very early and productive, color pink, large size.

Myatt's Victoria.—Good quality, early, productive, very large size, color dark red. I have gathered six stalks of this kind at the same time from one crown which weighed over thirty-three pounds.

Myatt's Prince Albert.—Very early, and a good sort for forcing, color light pink.

Giant.—A very productive, green-colored, late and large sort. Bears pulling all summer better than any other. Buist's Large Early Red, and Mammoth, and Cahoon's Seedling are said to be extremely fine. These three I have not yet seen, and here a word of advice: always buy rhubarb roots from some respectable nurseryman who has a character at stake, or you may be sorely disappointed in your future expectations.

THE FLOWERING RASPBERRY AS A FRUIT.

BY THOS. MEEHAN.

Most horticulturists are familiar with this plant (the *Rubus odoratus* of botanists), as it is very commonly seen in shrubbery borders, where it is introduced for the sake of its very showy flowers. I do not think, however, that any person ever saw it fruit under cultivation. I have had the plant under my observation cultivated both here and in other countries, and I never saw a berry unless in a wild state.

The improvements which have been noticed in the common blackberry, lead one naturally to look for like results in other native fruits. There seems to me no reason why entirely new races of fruits may not be obtained from our own stocks, the original of all our cultivated fruits being but improvements from the native stocks. Such races would, in all probability, prove far more easily cultivated, and return more certain results, than those now in existence. This has, to a great extent, been shown to be the case in the matter of the grape; and cultivators are now making skilful efforts in the attempt to improve it still further.

In a trip to the woods in Montgomery County, in this State, recently, it occurred to me whether the flowering raspberry could not be made to bear fruit under cultivation. There must certainly be some reason why they do not bear fruit in such a case, and probably no reason why that obstacle to its use as a fruit cannot be removed. If so, it would certainly be very valuable, for, in its wild state, it is far from being an inferior fruit; to my taste, at least, it is superior to the American Rasp-

berry, or Thimbleberry (*Rubus occidentalis*), and, on its native rocks, as I then saw them, it bore fruit in greater abundance than I ever saw the best cultivated raspberry do. I think that, by raising them from seed, a variety might be obtained that would bear berries when cultivated, and the foundation thus be laid for still greater improvement. I am the more inclined to the belief that such experiments would eventually be successful, because some of our new raspberries occasionally show a tendency to produce staminate flowers, and I have no doubt the raspberry will, after as many generations of seedlings have been produced as the strawberry has gone through, be as perfectly polygamous as that fruit is now known to be. Would it not be worth while for our horticultural societies to offer premiums for the best specimens of our blackberries, and American and flowering raspberries? If the fruit for competition were even obtained from the woods and wild places, it would have the effect of stimulating attention to the subject.

[The subject being one of interest, we called the attention of a botanical friend to it, and he has not only supplied additional information, but has forwarded us a wood-cut (made by himself, as an amateur), and we append both.—ED.]

J. J. SMITH, Esq.—DEAR SIR: In reply to yours of the 11th inst., permit me to copy from the *Flora of North America* (by Torrey & Gray), as the description accords so well with my own observations, and it may be proper, however well known, that it should accompany the cut.

"*Rubus odoratus* (Linn.).—Hispid, with glandular hairs, especially the peduncle and calyx. Stem, shrubby, branched. Leaves, large, three-lobed (the lower ones five-lobed), the middle lobe prolonged, all acute or acuminate, mucronately serrulate-toothed. Stipules, nearly free, deciduous. Peduncles, many-flowered, compound. Flowers, very large. Sepals, appendiculate, with a very long cusp, shorter than the obovate-orbicular (purplish-rose color) petals. Fruit, very broad and flat."

"Rocky places, Canada, as far north as the Saskatchawan! and Northern States! to the mountains of Georgia! June to August. Stem, erect, three-fourths foot high. Leaves, pubescent beneath, cordate at the base. Peduncles and upper part of the stem, &c., densely clothed with purplish, very clammy, glandular hairs. Cusps of the calyx as long as the segments, sometimes dilated. Fruit, yellowish or red when mature, well-flavored, but many of the carpels usually abortive." —*Rose-flowering Raspberry.*

Remarks.—1st. Linnæus has the credit of naming this plant, while, in the *Botanical Magazine*, t. 323, it is stated that "Cornutus" (Jacob Cornuti), "who first figured and described this plant, gave it the name of odoratus, on account of the very grateful fragrance of its foliage." If this is correct, then botanists ought to append "Cor." instead of "L.," who has honors enough, and needs not those of any other.

2d. It is not always erect. I have met with it much reclined. On the 20th of August last, while examining the flora of Duncan's Gap, Mifflin County, Pa., I met with it in abundance, being then both in flower and fruit. The shrubs were vigorous, the fruit large, and well flavored, to my taste. Pursh calls the flavor "very fine."

I can see no reason why the plant should not yield its fruit in our gardens, if planted in a damp soil of peat or bog earth, in a shady situation, especially when raised from the seed, and perhaps by crossing the flower with some of the hardy kinds of raspberries, a hybrid of considerable value might be obtained from its seeds. It is certainly worthy of a fair trial, on account of its large, rose-like flowers, as well as for the size of its fruit. I am aware that our Northern species, closely allied to this, have been unsuccessfully tried by English horticulturists, and, according to Loudon (who states that the R. odoratus was introduced into England in the year 1700), it would never yield its fruit.

The Arctic, or Dwarf Crimson (*Rubus Arcticus*), is exceedingly delicious, and grows in the wildest and most exposed districts of Lapland, Labrador, Rocky Mountains, &c., often the only food found in those dreary regions. Linnæus thus speaks of it, with much feeling: "I should be ungrateful towards this beneficent plant, which often, when I was almost prostrate with hunger and fatigue, restored me with the vinous nectar of its berries, did I not bestow on it a full description." The Cloud-berry (*Rubus chamæmorus*), growing in sphagnous swamps throughout Arctic America from Greenland to Behring's Straits, Maine, White Mountains of New Hampshire, &c., has a large, delicious fruit, composed of few and large carpels, ripe in August. Some poet of the Shakspearian school, while speaking of those dreary lands, says truly:—

"Ever enduring snows, perpetual shades
Of darkness, would congeal the living blood,
Did not the Arctic tract spontaneous yield
A cheering purple berry, big with wine."

Herein we have another evidence of the beneficence and goodness of God, so manifest in all His works and ways, by kindly supplying the wants of His creatures in all lands, and in every clime. Yours, truly, J. STAUFFER.

MOUNT JOY, PA.

PEAR BLIGHT A FUNGUS.

BY R. R. SCOTT, ROCHESTER, N. Y.

DEAR SIR: Having learned, by unpleasant experience, that enthusiasm in the development of hidden truths, either in ethics or science, ofttimes entails ridicule upon the humble devotee, I have almost abandoned the hope of being able to divert attention from the *seen and obvious* to the *hidden truth of nature.* Myself an humble individual, without that pecuniary position which, in our day, secures for the shallowest observer a hearing and respect, it was my aim to keep my name from before your readers, lest it might do injury to the subject discussed. You have thought proper, however, to publish it over a scrap relating to the "Fungus," which causes the "leaf blight and cracking of the pear." This inquiry, we may safely conclude, belongs to the science of POMOLOGY, *so-called;* then why do not pomologists busy themselves to investigate and explain it? Strange, that theory after theory has been promulgated and withdrawn, not one of these, as yet, sufficient to account for the phenomena in all its bearings. Some months ago, in reply to an inquiry, I communicated the inclosed article to an agricultural monthly, but whether it was out of place, or too abstruse, it was lost sight of. A late article in the *Gardeners' Chronicle* restates the facts deduced from further investigations. In order to explain the matter, it may be advisable to give the article to your readers:—

RUST AND CRACKING OF THE PEAR.

No satisfactory cause has been assigned at any of the meetings where the subject has been discussed, for the rust and cracking which injures some varieties of the pear and apple, and particularly the *Virgalieu* or *White Doyenné*, among the former, and the *Early Strawberry* among the latter. Nor in the published proceedings of pomological societies, has any definite cause been stated to which this defect may be attributed.

M. J. Berkley, one of the ablest continental writers on these abstruse branches of natural

philosophy, presents the following particulars, which, we presume, refers to the malady in question:—

"Species of mould of the family of *Helminthosporium*, or *Cladiosporium*, become dreadful pests on the leaves of pears and apples, especially of the former.

"The *Cladiosporium dendriticum* (of Walroth) arises uniformly beneath the true cuticle, under which its *mycelium* (or spawn) radiates in every direction. It exhausts the strength of the leaves, and often kills the young twigs; while, on the fruit, it forms unsightly black patches, rendering it unsalable, and sometimes inducing, or else accompanied by, extensive cracking. When once it has attacked a tree, it is very apt to return in succeeding years.

"A new progeny raised from the seed of diseased individuals, will exhibit the parental malady."

The same writer recommends as the only probable remedy he knows, the collecting and burning of the infected leaves and shoots, and the application to the buds and remaining portions of a mixture of sulphur, lime and gum tragacanth, the latter to make the mixture permanently adhesive, the former to act on the deposited spores (seeds).

No other remedy is known when the malady has been established. We presume this is the rust and cracking so much complained of as infesting our *Virgalieu* Pear, by Eastern cultivators. Those who have abandoned the cultivation of the *Virgalieu* or *White Doyenné*, working their trees of that variety with others not so subject to the disease, only partially remedy the evil, as the sorts substituted will doubtless become infested if the foregoing statements are correct. The true policy would be to destroy the whole tree, or so to wash it as to destroy all trace of the cryptogamic pest. As the rust and cracking is more prevalent in some localities than others, some predisposing cause must encourage the propagation of this mould; this is either to be sought in the atmospheric peculiarities of the locality, or in the nature of the soil. It is said the more the soil of a district becomes cultivated or worn out, the more the *Virgalieu*, *St. Michael*, or *White Doyenné*, will rust and crack.

Unfortunately for our fruit growers and farmers, attention to practical science is not a characteristic of our country. We have only a few energetic botanists, whose labors are not appreciated as they should be. The New York State Agricultural Society has conferred a great benefit on the farming community by the circulation of Dr. Fitch's essay on insects; what association will call to the aid of the farmer and gardener some able cryptogamic botanist and physiologist? S.

HARDY FERNS, NATIVE AND BRITISH.

BY J. E., GENEVA, NEW YORK.

DEAR SIR: Permit me to offer through the pages of the *Horticulturist*, a few remarks on this beautiful class of plants, which appears to be greatly neglected by the people of this country, especially amongst our ornamental gardeners. If we take into consideration the great variety and beauty, with their hardiness and easy cultivation, this is one of the most lovely tribes, and would be a great acquisition to the flower garden, and can be cultivated by the cottager or amateur, as well as by the wealthiest. I think the most ornamental way to grow the Fern is to make a nice rockery; this can be done by procuring a quantity of rough stones and irregular pieces of wood; the situation best adapted to the growth of Ferns is rather a moist, well shaded place. An open north aspect is the best. First take and train up a quantity of soil to form a gradual slope, and then place a quantity of old stumps or roots of trees or anything, with a good number of rough stones, so as to give the slope a romantic appearance; then take some good strong loam, one-half loam, mould one-fourth, and one-fourth peat soil, mixing them all well together, and then placing it six or eight inches thick amongst the wood and stones. This done according to any design, it will now be ready for the seed or plants, whichever is the easiest to procure. I think the seed might be sown at any season of the year, but seeds collected in the fall might be sown the last week in April, and you will have a quantity of interesting plants the same season. The following varieties are perfectly hardy and beautiful distinct species.

Aspidium or Shield Fern, A. dentatum, A. bulbiferum, A. fragile, A. lanchitis, A. regium, A. cristatum, A. labatum, A. filix mas, A. fontanum, A. filix fœmina, A. spinulasum, A. rhæticuna, A. oculeatum.

Asplenium, Spleenwort, A. ruta muraria, A. trichomanes, A. viride, A. marinum, A. adiantum nigrum, A. ebeneum, A. alternifolium, A. lanceolatum, A. rhizaphyllum, A. septentrionale.

Blechnum, Stone Fern, B. boreale, anoclea sensibilis, or sensitive Fern.

Polypodium, Polypody, P. vulgare, P. combricum, P. dentatum, P. dryopteris, P. auriculatum, P. virginicum, P. caleareum.

Botrychium, Moon Wort, B. lunaria, B. fumeriodis, B. dissectum.

Ophioglossum, Adder's Tongue, O. vulgatum.

Osmunda, Flowering Fern, O. regalis, O. cirmamemea, O. claytoniana.

Lycopodium, Club Moss, L. selaginodis, L. alpinum, L. nudum, L. denticulatum, L. obscurum, L. complanatum.

Scolopendrium, Hart's Tongue, S. vulgare, S. officinarum.

Adiantium, Maiden Hair Fern, A. capis veneris, A. pedatum.

Woodsia, Hyperborea, W. ilnense, Woodwardia virginica.

Pteris, Brake, P. aquilina, P. caudata, P. atrapurpurea, P. crispa.

I have noted a few of the hardy varieties, which, with a little attention, would have a pleasing effect. These varieties are quite hardy, being indigenous to the Northern States and Britain.

These plants are beautiful under greenhouse treatment, many of the varieties keeping their foliage all the winter. I hope ere long to see this lovely class of plants largely cultivated, so that we may keep pace with our brethren across the channel. I think there are a few of our gentlemen and ladies that will be able to appreciate the beauties of nature peculiarly displayed in this curious yet magnificent genera; there is room for considerable additions to the above selection, but it will be found to be complete in distinctness. Will not some of our lovers of nature's beauties take a step towards increasing this family? it is calculated to lead us to a meditation towards Nature's God, from whom we have such choicest gifts.

MOYER'S HONEY HEART CHERRY.

Mr. Josiah G. Youngken, of Allentown, Pa., through whose hands we originally received specimens of the Jackson Apple of that region, sends us an account of a cherry with the above name, which is highly prized in his vicinity. Mr. Y. cultivates most of the popular varieties of cherry, but, of all, he considers this the most profitable. He writes: "The original tree is yet standing, in Springfield Township, Bucks County, Pa. It is a healthy, vigorous grower, forming a round head, has large flowers, and is very productive. The fruit is of the largest size, of a regular heart shape, with the suture extending half round. Color, rich red. Flesh, pale yellow, juicy, sweet, and of high flavor. The fruit is borne on long stems, and is in season the middle of June."

We should be glad to receive specimens of this variety in due season. There are now a great number of cherries that it will be difficult to exceed, ripening about the middle and end of June; but there is much room for improvement in early cherries, from the incoming of the Purple Griotte to the Napoleon Bigarreau. If this variety will step in between, it may be very valuable.

A TRIP TO CUBA AND THE SOUTHERN STATES,

No. 8.

LEAVING Havana near the close of March, our American party found good accommodations on the steamer Empire City; on board were about one hundred of Walker's men then returning as the forlorn hope from the disastrous campaign in Nicaragua. They were very badly off for everything, and no doubt suffered much for clothing during part of our passage to New Orleans.

Voyages by steam have now become so common that descriptions of them must be omitted by travellers who expect to be read. Suffice it, that the Delta of the Mississippi was safely reached in a heavy fog—that our pilot mistook his position and entered a pass quite too shallow for our lumbering ship—that we spent a whole day in the mud, with the paddles going, and passengers irritated, till relieved by a tug and the swell created by two ships in charge of a steamer passing under our lea, and within jumping distance.

This bar at the mouth of the mighty river occasioned much talk; and some green men declared that if it existed in places they knew of the merchants would clear it out every day rather than submit to such an annoyance! forgetting the difficulties occasioned by the immense mass of rolling waters which descend filled with the light debris of the country above.

The water at the bar at the mouth is fourteen feet in depth, which is double that of the Nile, Euphrates, Indus, &c., and fortunately does not grow shallower; five miles above the sea the river is found to be still one hundred and forty feet deep; here, as well as above, its current at the surface and on the bottom has nearly an equal velocity. At New Orleans Professor Drake, in 1844, found the depth to be *two hundred and forty feet.* This extraordinary depth affects the imagination with a strange feeling of awe as one looks at the surface, resembling externally that of other rivers we are accustomed to, which present *to the eye* a much greater volume; the impression is enforced by the remark that no one who has the misfortune to fall into its current ever comes up alive. The ages and ages that it has been running one road have elevated its banks without raising its bottom. The Thames, Loire, Po, Elbe, Vistula, Danube, Dnieper, Don, and Volga united, fall short of the Mississippi nearly one third in the volume of their waters; the vastness of the idea is increased when we remark that during a greater portion of the year this river affords a navigation equal to the circumference of the globe.

Of the successive layers of cypress swamp known to exist on the banks, it is sufficient to refer those in search of knowledge to Lyell and other recent writers who have unfolded the wonderful operations of this mighty stream for successive ages, developing from the water, grass preceding the cypress, and the cypress the live oak. The elevation of the grass zone is assumed to have occupied 1,500 years, corresponding nearly with the known elevation of the Nilotic valley, and some go so far as to assert that the whole geological formation has consumed a period exceeding 158,000! Sir C. Lyell estimates it at 60,000 years. How dwarf and pigmy is man; measuring the life of the present inhabitants by these opinions, their existence seems comparable only to the life of a fly that settles on a grain of sugar, and is brushed away forever by a breath of air.

As we ascend the river the mind must continually recur to the vastness with which the silent operations of nature are here conducted—so slowly that during the existence of three generations there is made scarcely as much impression as would be created by placing a grain of fine sand in a teacup or a pitcher of water, and yet so surely that its effect after thousands of years, are astonishing and tangible. Awe must take possession of the most frivolous minds as the successive phenomena of the great Delta are rapidly exposed to view.

Ascending as we did much of the distance in the night, less opportunity for observation than would have been agreeable was afforded; the smell of orange groves frequently filled the cabins; as day dawned we saw the plantations of this fruit in considerable numbers; one or two are very celebrated for the quantities they produce, and we could but remark that these were *sheltered* by plantations of forest trees around them to keep off the northern blast, and to protect them from high winds which would scatter the fruit; thus, we see the importance of this kind of protection even on the borders of the tropics, and in the region of the orange and the cane; how much more important in our colder clime, and especially on those prairies still open to the coldest blasts from the lakes.

New Orleans reached, we took an early stroll through its level streets, and were again interested to see the trees in full leaf and bloom before the advent of April. The sour-orange trees were loaded with golden fruit as in Cuba; the roses were magnificent, climbing to the tops of the houses; the Locust and the Pride of India, favorite street trees, the latter especially, were in full beauty. At the shops a few strawberries without much flavor had made their appearance, and we were delighted to see at this early date at the fruit stores a ripe yellow fruit of the medlar family, here called the Mespilus Plum, which blossoms in December, and is now sought for here with greater avidity than any fruit planted at the north. It is oblong, with small seeds said to contain much prussic acid, and possesess an agreeable acidity.

It is highly pleasant to find one's self on American soil again; coming from Havana, New Orleans has a homish look, which it would scarcely possess if approached from up the river. So lately from the tropics, the dress, hats, &c., were all different from what we had so recently left; and it was very striking to see people perambulating without cigars in every mouth.

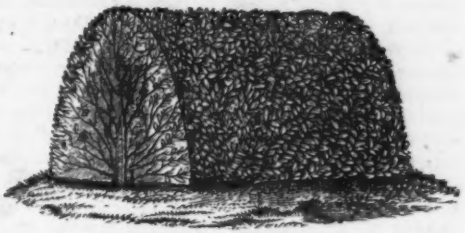
A few remarks on New Orleans and the garden of Henry Lawrance, an enthusiastic horticulturist, will not detain us long, when we shall ask the reader to accompany us on a trip to Natchez, where there is much to interest the lover of gardens.

OSAGE ORANGE HEDGES.—A SUBSTITUTE.

Two years or more ago, we venturned to suggest that the Osage Orange hedge would rarely be successfully grown in America. The plant comes *nearer* to what we want than any other yet introduced, but it requires an amount of attention which it rarely receives, and hence, principally, its failure. Our remarks called forth a considerable amount of feeling at the time, and letters poured in upon us in such numbers, that we began to think we had trod upon somebody's corns. We had, however, seen many jobs of planting it, and especially along the Illinois railroads, where the plants were set down and left to their fate; they were overgrown with weeds, and had never been trimmed or attended to; many of the plants were deceased, while those retaining life were growing up into trees.

At Mobile, lately, we were astounded by seeing a great sign with "Osage

Orange Hedge Company" painted on it; but we saw no good hedges. Now, a *good* hedge of this plant should be something like this:—



Trimmed Osage Orange Hedge.

How many of the vaunted hedges look thus? And, neglected, they are worse than useless, because they exhaust the neighboring ground. "Bad hedges are a nuisance to the eye, to the pocket, and to any farmer's crops. The sooner we make up our minds to be thorough enough to secure a good hedge," somebody has said, "whether of Osage Orange or not, the better."

The editor of the *Northwestern Farmer* (Dubuque, Iowa) agrees with us, that, in the main, the Osage Orange will not answer; the region of the Northwest is too cold for it, and he proposes a new plant, which he calls the New Hampshire Thorn, but gives no other name to it. His engraving, however, represents very strong thorns that must be really formidable. "The wood," he says, "is extremely tough and hard, bending like a withe, even after being cut some months." He adds "that he has taken measures to procure and distribute seeds." One of the correspondents of that journal says:—

"The following inferences I drew from information and observation:—

"1. That it is most decidedly the hardiest thorn with which I am acquainted.

"2. That it is the best guarded of any thorn I have seen, its prickles being from two inches in length downwards, and proportionally strong.

"3. That it will bear cutting, and improve by it the thick shrubby nature of the plant.

"4. That the size of its growth is just what is required for a hedge exposed to stock.

"5. That if properly planted and managed while young, it will be impossible for either man or beast to break through it."

NEW PLANTS.

ARDISIA CRENULATA.—This is a very ornamental little plant, or greenhouse shrub, that may be readily managed as a window-plant. In February, its berries (a great ornament) are in perfection, the plant being at that time covered with a profusion of its coral-like fruit that hang in small clusters beneath and among the leaves, and which retain the brilliancy of their color for a great length of time. Even without the berries, it is a very beautiful plant for a room, having long, serrated leaves, of a fine, glossy green. *Ardisia crenulata* will grow very well either in a cold room or one where there is a fire, and should receive a supply of water frequently, until the commencement of April, after which it may have it every day. This, like all other plants with shining leaves, soon shows the dust; it is, therefore, a good plan to sponge the leaves once a week, by which means it will always be a gay and lively ornament for the sitting-room, and its health will, at the same time, be promoted. A mixture of loam and peat soil is found to grow it well.

DORONICUM BOURGÆI (*Bourgeau's Leopard's Bane*).—Found by M. Bourgeau

during 1855, at Barranco de Angostura, in the Canary Islands. It closely resembles the Cineraria, and is "a highly ornamental greenhouse plant, flowering during the spring months." The ray florets are lilac, and the disk purple, studded with the golden-colored anthers.—*Botanical Magazine*, t. 4994.

FORSYTHIA SUSPENSA (*Pendulous Forsythia*).—It is the *Kengjo* of Kæmpfer, *Syringa suspensa* of Thunberg, and *Lilac perpense* of Lamarck. It was introduced from Japan in 1833 by Mr. Verkerk Pistorius, but has only recently been cultivated in England. Messrs. Veitch seem to be its first cultivators here, and sent flowering specimens to Kew in April of the present year. Its flowers are yellow, and "larger and handsomer than those of *F. viridissima*."—*Ibid.*, t. 4995.

CIRRHOPETALUM CUMINGII (*Mr. Cuming's Cirrhopetalum*).—Messrs. Loddiges flowered this very lovely Orchid in 1841. It was imported from the Philippine Islands by Mr. Cuming. Flowers, crimson and purple. Blooms in spring.—*Ibid.*, t. 4996.

BERBERIS JAPONICA.—When Mr. Fortune was in China, in 1848, he discovered and sent to England three new Berberries, viz: Beali, intermedia, and japonica; and, unquestionably, there are no finer hardy evergreen shrubs in cultivation than these are. As I do not recollect having seen any published drawing of the berries of either of these plants, I beg to submit to your notice a sketch of those of B. japonica. When ripe, they are similar in color to those of B. aquifolium, but in size (and in this respect they are somewhat irregular), they more nearly resemble grapes. Their appearance is indeed very fine and rich. They are borne in terminal racemes, at first erect, but, subsequently, as the berries color, pendent. I have seen many plants on which the berries were very much more numerous than those sent.

The foliage, too, is very fine. Each leaf usually consists of four or five pair of leaflets and a terminal one. From twelve to eighteen inches is the usual length of an entire leaf. The three species named are perfectly hardy, and succeed well in a soil composed of good fibrous loam and decayed leaves or manure.—GEORGE LOVELL, Bagshot. *Gardeners' Chronicle.*

FRUIT AND MANURE.

BY L. B., NEW JERSEY.

IN your November number my attention has been attracted by the "Old Digger's" letter. In my opinion it contains, in an elegant and compressed form, all that has been and could be said about the cultivation of fruit trees. It ought to be printed apart and put in the daily memorandum or garden book of every amateur or fruit grower.

To expect from a pear or apple-tree the most delicate, sugared, high-flavored products, and that in large quantities, without any cultivation of the soil, or with not half the care, labor, and expense given to a corn crop or a potato patch, seems to be folly, when we consider that in Nature's eternal laws nothing can grow where the natural food is wanting. The trees of our woods have their leaves, the decayed branches and shrubs, besides the natural benefits of rains and atmospheric influences; still, when oak woods have had their time, oak will grow no more in the same soil, at least *thriftily*, and without changing its constituents. It is a well-known fact that virgin soils produce spontaneously first the noblest among the forest trees, afterwards an inferior sort, till nothing but cedars or resinous plants will cover the once rich, now worn-out soil.

I am often asked why do the apple-trees bear no longer around here? or, when

they yield a scanty crop, why is the fruit so wormy, so poor that it is hardly fitted for the market? The reply is very easy. The soils have been worn out, not only by fifty or more crops of apples, but also by the grass, clover, and other unmanured crops, by all which, the phosphates, carbonates, and the once abounding potashes of the old forests, have been carried to market without any restitution to the generous soil. So much for the growth of the trees and their bearing. Now, when it happens that by a long interval of rest the trees have regained some strength by the *natural influences* of the air, rain and snow, nitrogen and ammonia, they soon blossom and yield another crop of fruit; but the soil has been so long in grass and so long neglected, that worms, bugs, and a legion of insects have found in that undisturbed soil a permanent home for themselves and their generations; and no sooner is a fruit set than they are at work by hundreds to sting and deform it.

A fruit orchard requires higher cultivation than any other crop, because it is cultivation *in two stories*, a crop below and one above. All that seems so very plain that I am often amazed when I see very able farmers, who would laugh at the idea of getting a wheat crop in a long neglected soil, without any manure or extra labor, look at their apple-trees as if they were exceptions to the general rule, *and bound to bear* no matter how poor the soil may be, because they did so fifty years ago!

A remark in Mr. William Bacon's letter (same number) hints at the possibility of overfeeding trees. There is truth in that. In the very rich and virgin soils of the West, where the trees are so luxuriant in their rapid growth, severe winters do great injury; we all know the results of our last winters in those rich prairies; but *here* there is little danger of overfeeding. Our soils are comparatively poor, and we are better protected by woods, hills, buildings, &c. Let us not forget that artificial products require artificial treatment. Our refined fruit trees can never be so hardy as the virginal wild trees of the species; neither can they succeed in soils where the wild tree can find supply and food for itself and its coarse, small product. The object of nature is to perpetuate the species by seed, ours to reduce the seed for the benefit of the pulp; what is only an accessory in nature's views becomes our main object. When the laws of vegetation are introverted in that way, our utmost skill and nurturing is required to keep up those artificial creations. They can bear manuring and feeding better than forest trees would do; and, if we do not *inflate* and swell their limbs with too much ammonia and water, if we use the constituents required for wood-formation chiefly, as potash, phosphates, lime, &c., there will be little danger of overfeeding trees, and I fear that for a long time to come, the reverse will mostly be the case.

STOCKWOOD GOLDEN HAMBRO' GRAPE.—This newly introduced grape is undoubtedly very fine; it is of the white class, and was obtained from seed of the old Black Hambro', impregnated with pollen of the White Sweetwater. In hardiness of constitution, it equals the Hambro', and, for rapidity of growth, beats that well known variety. It is a most abundant bearer, and a free setter, ripening its fruit in the same house at the same time as the Hambro'; and it is a most excellent bearer in pots. In size of bunch and berry, it equals the Hambro', when that variety is grown to perfection. Skin, thin and tender, of a pale yellow, but when highly ripened, of a pale amber. Flesh, delicate and melting, very juicy, and remarkably rich, sugary, and vinous, leaving on the palate a full and luscious flavor.

SHRUBS WITH ORNAMENTAL BERRIES; SUPPLEMENTAL.

BY E. N. PLANK, WOLCOTT, NEW YORK.

ALL of your readers, as well as myself, have perused with great pleasure T. Meehan's notes on "Shrubs with Ornamental Berries." The subject is one of interest to every lover of Nature, and has been handled with judgment and ability. However, to make the list more complete, and to bring into notice a few indigenous shrubs, which, perhaps, are not so generally cultivated as they deserve to be, the following notes as supplementary to those of Mr. Meehan may be acceptable :—

1. *Celastrus Scandens.* Staff-tree.—Waxwork. —There are few of our native shrubs more worthy of cultivation than the Staff-tree. It climbs by twining around the trunks of small trees, frequently attaining the height of twenty or more feet. It blossoms in June, bearing pendulous racemes of greenish-white flowers. The fruit consists of oval, berry-like pods of an orange color, which opening in autumn display the beautiful scarlet aril which envelops the seeds. The berries are persistent, retaining their form and beauty until late in the spring. The plant delights in an alluvial soil, and is of easy cultivation.

2. *Solanum dulcamara.* Bittersweet.—This is the true Bittersweet, though the name is sometimes applied to No. 1. This plant is also a climber, and is sometimes seen in cultivation as a covering for arbors, for which it is well adapted. The lower leaves are usually cordate, the upper ones hastate. The flowers, which are purple, are produced in cymose clusters. The berries are oval, and of a beautiful scarlet.

3. *Menispermum Canadense.* Moon Seed.—The foliage of this plant is its chief attraction. The leaves are large, smooth, and generally six-angled. The small, white flowers are produced in clusters. The fruit (drupes) are about the size and color of frost grapes. The stem is climbing.

4. *Cornus stolonifera.*—This shrub, which is a common inhabitant of our northern swamps, is worthy of cultivation not only for its white berries which are very ornamental, but also for the beauty of its shoots, which in winter especially are of a bright red color. I have known this plant to blossom *twice* in a season. C. Canadensis is a beautiful dwarf species, seldom attaining a height of more than six inches. It bears a terminal umbel of white flowers surrounded by a large petaloid involucre. The berries are red and very showy.

5. *Lonicera oblongifolia* and *L. cærulea;* both fine shrubs bearing ornamental berries, are sometimes met with in our low, rocky woods. The flowers of both species nearly resemble those of L. ciliata. The berries of both species are connate, formed by the union of the ovaries of the twin flowers. The berries of the first-mentioned species are purple, those of the last are blue.

6. *Benzoin oderiferum.* Spice bush.—While collecting plants during the summer of 1855, I noticed that the intense cold of the preceding winter had killed this fine shrub down to the snow line.

7. *Sambucus pubens.* Red-berried Elder.—This shrub grows plentifully with us here in Western New York. It certainly is a fine plant, and were it less common, would doubtless be cultivated. It blossoms very early in the spring, and ripens its berries in June. The contrast afforded by a bush loaded with ripe berries in the month of flowers is very fine.

Early in autumn I visited the original Sheldon Pear Tree, standing on the Major Sheldon Farm, now owned and occupied by Lorenzo Cady, Esq. The tree is twelve or fifteen inches in diameter at the base, and is probably twenty-five or thirty feet in height. It is of a fine, pyramidal form, and gives evidences of health and vigor, having made shoots the present season of ten or twelve feet in length. It bore this year an average crop of fruit which sold readily for twelve dollars per barrel. The farm on which the tree stands is in the town of Huron, Wayne County, N. Y. E. N. P.

P. S.—Above a year ago you promised us a new American edition of *Lindley's Theory and Practice of Horticulture;* may we look for its publication soon?

[We may as well say at once that Lindley's new edition is vastly superior to the first; it was prepared for publication; the new wood-cuts were made, when it was found that the *new* would interfere with the *old.* It is the etiquette of the *trade* not to publish on each other, and the proprietors of the *old* and superseded edition were not prepared to enter upon the expense of the much larger book; they had it under consideration, however, when the money panic set in, and we cannot now say when, if ever, the American public will obtain this invaluable work; the cost of the English edition is over six dollars.—Ed.]

TRAINING TREES AND SHRUBS.

A good deal has been written and spoken about "reformatory training" in our social system; we should be none the worse off by a little reformation in the training of some of our trees and shrubs, which would be the means of obtaining better specimens of plants and more abiding ornaments to the flower garden and shrubbery.

Lately, an arbor-vitæ was cut down which measured about eighteen inches in diameter about a foot from the ground; for many years it was a beautiful plant, both for breadth and height, but the bad training of its youth was the cause of its destruction in its declining years. Instead of training it with one stem, there were several stems allowed to grow together, which, in the course of years, hastened the destruction of the plant. There were two series of roots belonging to the tree—one in the soil, and the other in the body of the stem; when the several stems increased in size, the bark of the one came in contact with the bark of the other; when both were wounded, a lodgment was made for water, roots were produced at the injured parts that pushed their way into the wood, which hastened its decay, so that when snow or heavy winds came, the branches or stems were liable to be broken off, and the breaking continued from time to time until the ruins of the plant had to be removed altogether.

The training to single stems ought not to be confined to members of the Thuja family, but might be extended to species of other genera, such as Juniperus, Taxus, etc., so that when winter and rough weather assailed them, they would be able to resist the storm.

ABIES MENZIESII.

THIS species was named in honor of A. Menzies, Esq., who had previous to Douglas travelled over a great part of the northwest coast of America, and had

discovered this and many other interesting plants. Douglas found it in North California, and describes it as furnishing a useful kind of timber.

Manzies' Spruce appears to thrive best in situations where the soil is moist for the greater part of the year; in low bottoms, not absolutely flooded, with a moist atmosphere, it grows extremely fast. It is likewise found to thrive well in Scotland, and of course in our northern and central regions; on the most exposed moors, it never suffers, but, on the contrary, the peaty soil and humid atmosphere appear favorable to its growth. On dry soils it frequently loses a portion of its leaves during the dry weather, and this gives it a shabby appearance and has led some to condemn it. In such situations it should be liberally supplied with water during the growing season.

DISEASE IN PLANTS.

A VERY singular case, illustrative of the effects of the mycelium of Fungi arising from dead wood upon neighboring plants, occurred a few years ago in Northamptonshire, England. A Golden Rose, remarkable for the size of its flowers, and a great favorite from the peculiar circumstances under which it was planted, was the subject of conversation amongst a party of friends, who were admiring its beauty, and alluding to the matter of interest with which it was associated. Though apparently in the most vigorous health, the next day it was withered as if killed by a stroke of lightning. The mystery, however, was soon developed. On examination, the roots were found to be covered with a white web of mycelium, which was evidently of extraneous growth. Other instances have occurred of a similar character in the same garden, and we have in consequence been convinced that the principal reason why trees will seldom succeed where an old one has died, is due to fungi arising from the decayed roots. Evidence of a like kind will be found in Loudon's *Arboretum*, under the article "Larch." The principle, however, is of far wider extent. A disease was noticed some years since in several parts of England, but especially at Ely, where it is known under the name of Copper Web, as attacking Asparagus. It is due to some mycelium, known to botanists under the name of *Rhizoctonium*, but of which the perfect form has not yet been ascertained. In France, it is the pest of lucerne, chiccory, saffron, and of several other objects of cultivation. We believe that it is always traceable either to dead vegetable bodies in the neighborhood of the roots, or to more recent substances like sawdust, mixed in the manure. It is well known, again, that tender annuals often damp off in a frame without any apparent cause. Where leaf-mould or matter from the base of fagot ricks imperfectly rotted, has been mixed with the soil, mycelium developed on the little fragments attacks the roots and kills them; and we have found the same effect arise from lumps of hard cowdung mixed with compost, which are very apt to produce mycelium.

The fungi of which this mycelium is the infant state, in many cases, could by no possibility be developed upon the plants which it destroys, but it should seem as if there was a peculiar tendency in many fungal threads to produce decomposition upon tender cellular tissue with which it may come in contact, and if one cell only be attacked, the taint may easily be communicated from cell to cell in any direction which may be least capable of resistance. If there is any truth in the notion (which, within certain limits, can scarcely be denied) that particular roots have an especial reference to particular branches, we have a ready solution of the mystery, that one branch should perish while the rest of the tree is healthy. In some cases, injury no doubt arises in a different way from contact with decaying

vegetable matter, where no mycelium may be produced, and the effect may be precisely the same. An interesting account of injury arising from such a cause is given in the *Bibliothèque des Chemins de Fer*, in Payen's treatise on the maladies of several objects of cultivation. It is a matter of experience that sugar beet is extremely subject to decay when sown on ground which had formerly borne a crop of the same vegetable. The plant is one which sends down a long tap-root into the ground, and when the crop is removed, a large portion of this generally remains behind, though at a considerable depth beneath the surface. When the tap-root of the new plant strikes down to this depth, as it will naturally do if vegetation is vigorous, the tender spongelets are affected by the old putrescent roots, and the decay is soon carried upwards, to the destruction of the crop.

The inferences from the subject are obvious, and show the necessity of increased care in many quarters of the garden, where matters have long been left to take their chance.—M. J. B., in *Gardeners' Chronicle.*

A TALK FROM IOWA.

BY JAMES MATHEWS, KNOXVILLE, IOWA.

I HAVE observed an obstruction in the circulation of the *Horticulturist* this way, since the reception of the April number. I presume, without looking over my receipts, that the cause is *non-payment*, which is a good one. I wish every editor in the land would pursue the same course. The *Horticulturist* is one of the periodicals that I want as long as I am able to take or read a paper, *provided* it continue as interesting and useful as it now is. I have been a subscriber from its commencement under the auspices of Mr. Downing, and have all the volumes bound.

The climate in this part of Iowa proves too severe for most kinds of fruits, except the hardiest varieties of apples. The two past winters killed all the peaches and most of the cherries to the ground; also, the pears. The exceptions with me, amongst the cherries, were Early May, May Duke, Belle Magnifique, and Reine Hortense; and out of some fifty to sixty varieties of pears, Buffum is the only kind entirely uninjured by the freezing. Both of the winters referred to, the thermometer fell frequently to 20°, and at three or four times from 24° to 28° below zero. Catawba and Isabella Grapes killed to the ground; Brincklé's Orange, Catawissa Raspberries, and Lawton Blackberry, quite hardy. Several others, including Gnevit's Giant, large French Monthly, &c., killed. All the varieties of currants and gooseberries of course perfectly hardy.

I have taken some pains (as apples must be the principal reliance for those who intend to make their homes in Iowa) to examine and ascertain which are the most hardy and reliable in this vicinity. I have had the aid of Mr. Drury Overton, who is my neighbor, and a nurseryman of seven or eight years' experience here. We have set down as perfectly hardy: Red June, Fall Wine, Jannetting, Smith's Cider, Yellow Bellflower, American Summer Pearmain, Early Sheep's Nose (a very fine apple every way), Newark Pippin, Shaker Yellow (a first-rate apple, ripe in August), Wine Sap, Red Sweet Pippin, Roman Stem, Holland Pippin, Jonathan, Summer Queen, Michael Henry Pippin (no better apple here), Red Sweet Romanite, Green Everlasting, American Pippin, Summer Rose, Red Astracean, Belle du Havre.

Clinton Grape proves perfectly hardy with Mr. Overton, and is a prodigious bearer. I ought to say that the two past winters have been an exception. This I know to be so both from the testimony of the first settlers here, and my own

observation. I removed to Knoxville in the spring of 1855. There were then in my garden four peach-trees, which, from size and appearance, I should say were from five to six years old, and which bore a fine crop that year. The winter of 1855 and 1856, they were killed root and branch.

Amongst the evergreen sand shrubbery which I have planted out: Scotch Fir (Sylvestris), perfectly hardy; White Spruce (Abies alba), Balm of Gilead (Balsamea), Blue Spruce (Cœrulea), Norway (Excelsa), and European Silver (Pectinata), all hardy, and grow well in our soil; Pines, Austrian (Austriaca), Corsican, Russian (Rigensis), and Weymouth, all perfectly sound; Arbor-vitæ (American), hardy; Chinese, considerably injured; Ginko (Salisburia), hardy; African Tamarix, killed nearly to the ground. Several varieties of the Box, all injured badly. Yew, common and upright (Hibernica), much injured; Mahonia aquifolia, suffered considerably; Weigelia rosea, perfectly sound. Amongst some twenty-five varieties of Bourbon and Hybrid-Perpetual Roses, all were cut down nearly to the ground, but this injury only seems to increase their propensity for blooming, for I have never seen freer blooming or finer specimens. Amongst the finest, I may name—1, Mrs. Elliott; 2, Reveil; 3, Bon Paxton; 4, Josephine Robert; 5, George d'Amboise; 6, Sydonie; 7, Duchesse of Sutherland; 8, Felicite of Rigeaux; 9, L'Enfant du Mont Carmel; 10, Madame Trudeaux; and 11, Madame Laffay. The latter has branches now six feet high, made this season. No. 9 is one of the finest roses I have ever seen. I procured it of Mr. Le Roy, of Angers.

Baltimore Belle and Queen of Prairies, killed down considerably, but still bloom finely; Yellow Harrison, of course perfectly hardy; Syringa, Philadelphus, and Grandiflora, rather tender; Bignonia grandiflora and Radicans, both killed top and root; Wistaria (Chinese) and Periploca, killed to the ground; Persian Lilac, hardy. A few kinds of Spirea are hardy. Japan Quince (Pyrus Japonica), perfectly hardy; Horse-Chestnut will not grow with me in our soil; Mountain Ash, European, American, and Oak-leaved, all perfectly hardy; Weeping and Ring-leaved Willows, killed down.

The foregoing list may be useful to persons emigrating to this State. While we have to deplore the want of encouragement to cultivate the fruits generally, we may well felicitate ourselves on having one of the best agricultural States in the Union. Our crops, this year, are unexcelled. Of all the grains and vegetables, we have a superabundance; and yet, if the unfavorable accounts we have are true in regard to Missouri and Kansas, we shall have a market and paying price for all.

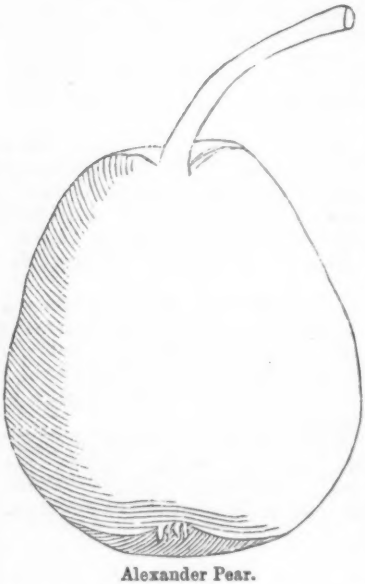
Our farmers and gardeners need none of your bone-dust, guano, or compost heaps, to stimulate the growth of their productions. Nature has bountifully provided us with all the fertilizing ingredients we shall need for half a century, if our lands are properly farmed. With the culture which your Pennsylvania farmers give *their* lands, our prairies would yield an average of one hundred bushels of corn per acre, and other crops in a like proportion.

I shall have a word or two to say, soon, about my curculio remedy, in regard to which there have been so many hints, suggestions, and inquiries. I have some reports and testimony in relation to experiments made, some with slight modifications, upon my invention, which will, perhaps, place the question in a new light. [Let us have it by all means.—Ed.]

THE ALEXANDER PEAR.

BY JOHN B. EATON, BUFFALO, N. Y.

THE fine native pear to which I have given the above name, originated at the village of Alexander, in Genesee County, the seed having been planted thirty-five or forty years since, by a Mrs. Churchill, who had brought it from Connecticut. The original tree was about thirty feet in height, and about ten inches in diameter of trunk, and was standing when I first learned its history, but, as I have lately heard, is now dead. M. Calvin, Esq., of Cheektowaga, in this county (Erie), from whom I obtained the foregoing information, had worked trees from the original one some two years ago, one of which has been in fruit for eight or ten years. Specimens from Mr. Ely's tree were presented at the exhibition of the Fruit Growers' Society, held in this city September 13, 1855, and then first attracted my attention. Mr. Ely kindly furnished me with a number of specimens, from which I made a description and drawings. Last season, I was unable to obtain any of the fruit, but during the recent State Fair, Mr. Ely was present at an informal meeting of pomologists with a few specimens, which, although not so large as those which I had before received, were not wanting in their fine flavor. Several pomologists of eminence who were present, were unanimous in awarding it high praise, and several gentlemen were of opinion that it could be nothing less than that fine pear, the Gray Doyenné, from which it is, however, without doubt, quite distinct. I am of opinion that it will prove inferior to few of our native varieties, and having compared it with a fine specimen of the Beurré Bosc, which happened to be in eating at the same time. I had no hesitation in deciding that the Alexander was the superior in flavor, although perhaps not quite so fine-grained, and in this opinion I was not alone.



Alexander Pear.

The following is a description: Fruit, medium size, sometimes rather small, irregularly obovate, frequently approaching oblong, and somewhat one-sided. Stalk, from one and one-fourth to one and one-half inch long, rather slender, curved, fleshy at the base, and inserted obliquely (usually at the side of a swollen lip) in a moderately deep cavity, which is often nearly obsolete. Calyx, small, partially closed. Segments, short, and irregular. Basin, narrow, regular, and pretty deep. Skin, rather thick, yellowish-green, nearly overspread with cinnamon-russet, except in the shade, and having occasionally a faint brownish-blush in the sun. Flesh, white, a little coarse, and somewhat gritty at the core, melting, and very juicy. Flavor, sugary, rich, and very fine. Core, small. Seeds,

small, nearly black, and pointed. Ripe from September 20 to October 15. *Very good.* Shoots, rather stout, yellowish. Leaves, one and one-fourth to one and one-half inch long, narrow, sharply acuminate, deep green, glossy, and scarcely serrated. Petioles, long and slender.

HEAT AND LIGHT.—ACCLIMATION.

BY AN OLD CONTRIBUTOR.

FRUIT only obeys the general laws which regulate the formation of vegetable secretions. Heat and light are unquestionably the agents, though perhaps not the sole agents, upon which all the qualities of plants depend. No art can induce the rhubarb plant to form in Europe the medicinal substances which give value to the drug in those bright and heated regions of Asia which it inhabits, nor can the tomatoes ripened in England be for a moment compared, for excellence, to those produced in the north of Africa. Among the immediate causes of the changes that occur in the secretions of fruit, heat and light being of the first importance, the peculiar qualities of fruit are imperfectly formed without them, especially in species that are natives of countries enjoying a high summer temperature. It is found, that among the effects of high temperature and an exposure to bright light, is the production of sugar and of certain flavors, and that, under opposite circumstances, acidity prevails.

Very curious results are produced by this law on plants in the same latitudes, under different circumstances of light and heat. In some parts of England, for instance, trees and plants which are natives of tropical climates, often remain in the open ground through the winter without injury. Oranges, citrons, myrtles, camellias, magnolias, the Mexican agave, &c., require no protection from frost, and, in sunny exposures, are grown in the open air; yet the above fruits are difficult to ripen under the most favorable circumstances of position. The grape rarely ripens, while currants are acid, and only gooseberries and strawberries attain perfection; the apple, hardy as it appears in the American climate, rarely comes to perfection in positions of the average exposure, owing to the low temperature and humidity of the summer there, in contrast with the high temperature and freedom from sensible moisture here. The spread of wheat and the better cereals, is of recent date in the British islands, and is due only to the great care and superior cultivation applied. In 1747, a small field of wheat was a great curiosity at Edinburgh, and, up to 1770, very little grew there; now, it is abundant. It is, then, to superior light and heat combined that we are indebted for our great crops of cereals; it is to the same vivifying causes, in greater degrees, that the West Indies owe their pine-apples and highly flavored fruits which we in vain attempt to produce without artificial means.

It may be considered an axiom in horticulture, that *all plants* require the soil as well as the atmosphere in which they grow, to correspond in temperature with that of the countries of which they are natives. The mean temperature of the soil should be above that of the atmosphere; how much above, depends upon climate and season. The earth is warmer than the atmosphere, as a general rule. When plants are cultivated in glass houses, there is little difficulty in supplying them with the amount of bottom heat which they may require; but this can either not be effected at all, or only to a limited degree, by a selection of soils and situations, when plants are cultivated in the open air; and hence, one of the many difficulties of acclimatizing in a cold country the species of a warmer climate. It is true that plants will exist within wide limits of temperature, and, consequently,

a few degrees of difference in the natural bottom heat to which they are exposed, may not affect them so far as to destroy them; but it cannot be doubted that the conditions most favorable to their growth, are those which embrace a temperature rather above than below that to which they are accustomed in their native haunts. This point ascertained, we have come to an important discovery regarding acclimation.

CHEAP VINERIES.

To build a cheap vinery, use posts at back 5 feet apart, 5 inches by 2½, 8 feet out, and 2 feet in the ground; posts in front 5 feet apart, of same dimensions as those at back, 3 feet out of the ground and 20 inches in; the ground must be well rammed around the posts. Rafters, 14 feet long, 3 inches by 2¼; mine were ready cut for glazing at Montgomery's saw-mills, Brentford. They have been in their present places eight years, and have neither warped nor sagged; they may be placed 15 inches apart. These 14-feet rafters give me ground width inside of about 12½ feet; so that my house is 8 feet high at back, 3 feet at front, and 30 feet long. To give more head room, I have a sunken path in its centre 15 inches deep, and 2 feet wide. My walls are formed of ¾-inch Deal boards, not feather-edged or rebated, nailed as closely together as possible (they shrink and let in air all the better); they are, as well as the rafters and other parts of the house, painted with anti-corrosive paint of a bright stone color, and the effect is neat and good. Three sliding shutters (each 3 feet long and 10 inches wide) are in the back wall, or, rather, boards, within about 18 inches of the top. One 10-inch board at front is on hinges, forming a shutter, so as to give a continuous opening there 10 inches wide. The roof itself is fixed—a matter of some importance in cost. My soil is dry and sandy, so I have not prepared any border, but merely forked in some rotten dung, mixing it with the soil to about 20 inches deep. I prune the vines on the spur method, do not grow large bunches, and always have a nice crop. I have fourteen Black Hamburgh vines in my house, for I reckon that a vine on the spur system, and the summer shoots well shortened in, ought not to occupy more than 2 feet in width; they give me, in round numbers, about one cwt. of grapes annually. The vines are planted inside the boarded wall in front, and as there is no brickwork, their roots have full liberty to go inside or out. Air is my great ally. I believe that our summer's sun gives heat enough to ripen all the fruits of temperate climates under glass, and that the vast increase of heat by day, when the sun shines, is quite enough without endeavoring to "shut it in" at night, as the old gardeners used to say, which only gives grapes with thick skins, and without color. I am now only alluding to the ripening of fruits at their natural season; forcing to have them early is quite another affair.

Grapes, particularly Black Hamburghs, are easily grown under glass. I have not yet said the cost of my vinery. I am almost fearful it will, by the builders, be thought too cheap. My 30-feet house did not cost seventy-five dollars, and I have a strong suspicion that a man fond of doing his own carpentry might do it for fifty or sixty. Glass is cheap, rafters are cheap, and ¾-inch boards for the walls are also cheap enough.—VIGNERON, in *London Florist.*

The Young Gardener's Assistant. By THOMAS BRIDGEMAN, New York, 1857. A new edition, with an Appendix.

THIS is an original work, by the late Mr. Bridgeman, which has long kept its place as a standard book in the gardening world, and, with McMahon's (published in Philadelphia), continues to be the guide to the novice no less than the practised hand.

We like to record the success of practical men. In the case of the Messrs. Bridgemans, we find an industrious and thoughtful father successful through a lengthened career, and leaving his sons established in the *same business and in the same place*, after his death. Nos. 876 and 878 Broadway, New York, are now the property of the two sons, Andrew and Alfred. The seed department is managed by Alfred, and the greenhouses by Andrew Bridgeman, in two well-built stores, with their dwellings above. The business was first commenced in 1828, by the father, and continued by him until 1850 (the period of his decease), when the sons erected two four-story houses, well adapted to their objects; the southerly one is devoted to the sale of vegetable, herb, flower, and grass seeds, horticultural books, and garden tools and implements; the walls are plastered on all sides with cement, and the floor is of concrete, making it secure from dampness and the attacks of vermin. In the house devoted to the plant department, the basement is divided into a flower-room for keeping and making-up cut flowers, and a packing-room and general stowage; the store is appropriately fitted up with shelvings, counters, &c., and floored with encaustic tiles; in connection with it is a greenhouse, eighteen feet wide and one hundred and thirty feet long. A neat fountain with gold fishes in the front part, attracts much attention from the Broadway loungers.

This greenhouse is heated by two of Hitching's hot-water apparatus, advertised in this journal, and which Mr. B. assures us answer admirably.

The country establishment is at Astoria, where there is a fine propagating house,

five greenhouses, two rose-houses, one rose pit, and about forty sashes of frames for violets, pansies, &c. The grounds are ornamented with different varieties of fruit-trees, and are occupied principally in growing roses, ornamental and flowering shrubs, fruit, herbaceous and greenhouse plants, asparagus, rhubarb, strawberries, &c. &c. Mr. B. is prepared to execute orders to any amount for forest trees, dwarf pears, &c.

In the city store will be found one of the finest collections of bulbous roots; a number of each kind are potted for those who desire to have them already started —a convenience which many salesmen cannot afford. Here will also be found fancy flower-pots, bulb-glasses, and baskets for flowers, of which latter ornaments they fill innumerable orders during the winter season, as well as hand-bouquets and designs for parties and suppers. The greenhouse in the city is filled with plants suited for private houses during winter, and, in spring, they are replaced with bedding-out plants, for which the establishment is famous throughout the Eastern and Middle States.

This sketch of the business of two brothers in the heart of New York, realizes an agreeable picture, and is an example of exactly what we like to see. To minds imbued with a love of nature's gifts, and, of course, admirers of the floral world, it would seem to us to afford an amount of enjoyment which few other occupations can give. We record it for the encouragement of those who may now be struggling with economy and industry to found similar establishments elsewhere. There is not a city in our land where equally persevering attention and honesty may not bring like results.

A Series of Nine Botanical Diagrams. By the Rev. Professor HENSLOW, of the University of Cambridge. Day & Son; issued for the Committee of Council on Education, Department of Science and Art. London.

These are colored figures printed on paper 40 inches by 30, from drawings on zinc by Mr. Fitch.

OBITUARY.—JAMES D. FULTON.

DIED, suddenly, on the 22d of October, Mr. James D. Fulton, of Marcus Hook (formerly of Philadelphia), in his forty-third year. Mr. Fulton was in New Jersey, with some of his men, collecting packing moss, when he complained of not feeling well, suddenly fell to the ground, and soon after expired. It was long known to himself and his friends that he labored under a disease of the heart, and his death, though sudden, was not altogether unexpected.

Mr. F. was one of the most active working members of the Pennsylvania Horticultural Society, and the fruit committee, especially, will sustain a severe loss. Of one whose course in life had been so unobtrusive as was that of Mr. Fulton, devoid of striking incident—indeed, of variety itself—but little may be said of interest to others than friends who appreciate his worth, and lament his early death, occurring, as it did, before his plans of usefulness had been fully consummated.

James D. Fulton was born at Bainbridge, County Down, Ireland, and accompanied his parents to this country when about six years of age. His father had been bred to horticultural pursuits, which circumstance gave direction to the son's bent and inclination. Some time after his arrival in this country, his father sought and obtained employment at the nursery grounds of the late D. and C. Landreth, and was for a short period foreman of the Fifth Street branch of their establishment; the son, then a school-boy, acquired the rudiments of an English education. It is not known that he exhibited an especial tact or inclination to study, but great aptness for the mechanical effort of writing, which was not impaired by

hardened sinews, the result of daily labor; few men with whom writing is an every-day occupation, could use the pen with greater celerity or grace.

The decease of his father, whilst he was still a mere youth, leaving his mother dependent on her own exertions, led to his being placed with the Messrs. Landreth, in the capacity of an apprentice, whilst the mother, to be near her son, resided in the family of one of those gentlemen; and it may here be observed, as an instance of long-continued connection (so unusual in this country), that though in advanced age, she still remains a useful attaché of the present firm of David Landreth & Son.

On reaching manhood, James ultimately became the foreman of Mr. Thomas Landreth, in which position he so conducted as to secure the good opinion of his employer and his customers. On Mr. T. Landreth relinquishing business, the nursery grounds passed into the hands of Mr. David Landreth, who, being otherwise engaged, interested Fulton in the concern, giving him the sole charge of the nursery, which he so managed as to secure the approbation of all persons having business relations with the establishment. On Mr. Landreth's declining that branch of his profession, Mr. Fulton decided to embark in business on his own account, with the intent to confine his attention more particularly to greenhouse plants, to the propagation and cultivation of which, especially camellias, he had a special inclination, and perhaps was not excelled in successful efforts in that department of horticulture.

Mr. Fulton had, but a few months previously to his decease, removed to a small property recently purchased by him, adjoining Marcus Hook, in Delaware County, Pa., where he was surrounding himself with the means of rational enjoyment, and was giving promise of increased usefulness. He had there lain the foundation of a systematic nursery, and had his life been prolonged, his grounds doubtless would have proven of much public utility. It has been ordered otherwise, and, in his case, the emphatic declaration, "in the midst of life we are in death," was verified. Whilst out from home, on business connected with his nursery, he was suddenly stricken by an affection of the heart, and died within an hour of the attack, in the forty-third year of his age, leaving a widow, childless.

Mr. Fulton brought to his profession the aid of reading, observation, and reflection, and though, like most self-made men, he may have been at times over-confident in his conclusions and deductions, he had the merit of receiving with respect the opinions of others; and there are none who associated intimately with him but will bear witness to his integrity of purpose in every relation of life. Like others, he was not without peculiarities of character, one of which was his refusal, from some *covenantic* sentiment, to claim the right of citizenship, and, of course, he never exercised the elective franchise pertaining to that condition—in this particular, presenting a striking contrast to his countrymen in general. It is, however, with him in his professional capacity, this sketch is concerned, and the writer can conscientiously pronounce him to have possessed the best characteristic of his profession—he was reliable in every particular—no man ever intrusted his interest in his keeping, and was unfairly dealt by. In no pursuit in life is opportunity greater or more frequent to lean to the side of our own interest than that of the nurseryman; and it may be safely affirmed, that in none where an equal measure of intelligence and industry is requisite, is compensation so illy bestowed.

He who would discharge his duty to the public in that capacity, should bring to his aid more than a mere average share of intelligence, close observation, and patient, unflagging industry. He may, as many do, get on with less, but nothing less will strictly qualify him for his post. Possessing these requisites, he may naturally expect the result to be independence, if not wealth; but how few there are, if any, in this country who have attained it! We shall not speculate on the advantage of prolonged industry, nor moralize on the relative usefulness to the community and individuals of idleness and industry; our object is simply to call attention to a fact, with the view to impress upon the reader's mind, if he have occasion to purchase the products of the nursery, that prices apparently high, in many cases yield but inadequate return for necessary care and skill.

In concluding this brief notice of one who has so suddenly passed away, it is gratifying to bear testimony, and record the fact on pages devoted to the promotion of the pursuit to which he was so ardently attached, of his sterling worth; in every relation of life he was "an honest man."

His quiet manner, and unobtrusive mode of getting along, made the name of Fulton but little known abroad; he never advertised, and thus one of the best and most promising nurseries of the vicinity of Philadelphia, was rarely mentioned beyond a small circle. This course can rarely be as successful as one which promulgates a knowledge of what is going forward.

EDITOR'S TABLE.

THE OLD BOOK ON ORCHARDS AND GARDENING, of which we have already spoken, and given specimens, and which is the greatest curiosity in its way that we have seen, goes far to prove that all knowledge is not exactly modern. It enforces much that orchardists and gardeners of the present times insist on, and altogether makes a good foundation for a horticultural library. We are glad to learn it is exciting lively interest, and proves an incentive to our friends to make a little exertion to obtain readers for us, and thus procure the work for themselves.

The knowledge which the ancients had of farming and gardening, has lately been examined by Dr. Daubeney, who has just published his "Lectures on Roman Husbandry, delivered before the University of Oxford." He takes up the history of agriculture as the science was developed by Columella. The early husbandmen prized the rich loam soils, and learned to distinguish the earth that is soon crusted by the sun from that which is friable, black, and porous, and judged of the land by ascertaining whether it produced the lotus, the reed, or the basket-rush. They knew where to find springs, and how to estimate an argillaceous district. To this day, in the South of France, men are held in high estimation who possess the art of finding hidden waters, and that was an old Grecian invention. It is a curious circumstance, that one of the methods described by Hesiod is precisely the same as that now employed by certain African tribes; they ascend to a hill-top before sunrise, and when the warmth of the dawn begins to glow, they observe where exhalations rise. The Attic farmer, moreover, understood the processes of irrigation, the tokens of the weather, the agricultural signification of stars, clouds, swarms of insects, the colors painted on the sky by the setting sun, the ground fogs round Hymettus, the vapors on the Capharean peaks. He judged from circles round the moon, meteors, rainbows, bubbles on the surface of a river, the cry of a crane or chaffinch, the flight of island birds, the roll of dolphins, the creeping of the land toad into its pool, the burning of the candle-wick, and a hundred other natural omens. But it was in the processes of agriculture that the Greek ingenuity most conspicuously displayed itself. The farmer, if wealthy, kept smiths', carpenters', and potters' works upon his land, and constructed his own wagons with ilex axles, maple yokes for the oxen, poplar or mulberry felloes in the wheels. He applied manure to the fields, and justly appreciated the value of guano. Few improvements have been made on the manure pits of ancient Greece; the Grecians had a harvest home as in modern times.

The Greek authors supply abundance of details on the floriculture of their contemporaries, on the artificial blanching of roses, on the planting of garlic near their roots, with the fanciful intention of enhancing their fragrance; on the immersion of lily bulbs in cinnabar and purple wine, on the cultivation of stoneless peaches, piebald figs, and almonds bearing natural inscriptions.

In his view of Roman husbandry, Dr. Daubeney indicates many similar points. Like the Greeks, the Romans prized, above all other kinds, the manure yielded by birds, rejecting that of aquatic species, unless mixed with superior qualities. The sweepings of dovecotes were highly valued. The use of chaplets necessitated the cultivation of flowers,

although "winter coronets" were made from shavings variously dyed, which afterwards gave place to gold and silver. Among fruits, he considers the melon was unknown before the times of Pliny, but it was before his time that it was recommended to perfume it, by keeping the seed in a bed of rose leaves!

The peach, he says, was brought from Persia, and Columella alludes to the fable of its poisonous qualities; probably the prussic acid in the kernels. These topics possess interest, and might occasionally be curious, if reproduced at our agricultural and horticultural societies, where men sometimes promulgate news that was familiar to the oldest writers whose productions are preserved.

Nursery Grounds for Sale.—We refer to the advertising sheet for the particulars of a nursery spot near this city, which is worthy the consideration of some practical man, who would receive aid in his sales which would be very valuable, and would not require him to *seek* business entirely himself. The land, we know, has the best capabilities, and is partly stocked.

American Fruits in England.—British gardening has become celebrated for the great improvements it has effected in floriculture, and the whole process of rural adornments. Strangely enough, pomology has been, to a great extent, neglected. In the hands of a few enterprising men, strawberries and exotic grapes have improved a little, but the horticultural societies have done little towards encouraging a popular taste for fruits. Latterly, a pomological society has been formed; and, more recently, the London Horticultural Society has had exhibitions specially for fruits, the first of which, held October 24, seems to have been very successful. Foreign growers were invited to compete, and it was hoped that some contributions would be sent from this country. We did not expect that anything would be forwarded, as the chances would be very unequal of their success after so long a voyage, in a contest with fruit just fresh from the hands of the growers to the exhibition tables. We were therefore much gratified to see, in the report, amongst the exhibitors, Messrs. Hovey, of Boston, and that their courageous experiment of astonishing John Bull with American-grown fruits, was not altogether unsuccessful. Of the pears, the report says:—

"Messrs. Hovey, of Boston, showed a collection of American pears in this class; they had a warm, brown look with them, but, in point of growth, were greatly inferior to English fruit. We understand, however, that this has been a bad season with the Americans for pears, and those exhibited were likewise damaged very much from travelling, all of which, in some measure, served to detract from what merit they would otherwise have possessed. They consisted of Beurré d'Anjou, Beurré Gris d'Hiver, Beurré Bosc, Beurré Superfin, Beurré Diel, Duchess d'Angouleme, Paradise d'Automne, Swan's Orange, Beurré Clairgeau, Passe Colmar, Van Mons Léon le Clerc, Glou Morceau, Nouveau Poiteau, Marie Louise, Edwards' Elizabeth, Sheldon, Winter Nelis, Colmar d'Aremberg, Louise Bonne of Jersey, and others."

It is to be regretted that, with three exceptions, the collection should have been made up of kinds of foreign origin. American pears seem nearly unknown in England. The Seckel, from the private garden of the Queen of England, took the first prize as a single dish. The Lodge is noticed as a fine, juicy, American variety, but entirely destitute of aroma. These are the only American names we notice in a long list of worthies, unless "Chapman's Pear" is intended for the Chapman of Philadelphia, which is, at best, but second rate.

The apples seemed to have better pleased our cousins. The report says: "Of these there was a large and extremely good exhibition, and the great size and large amount of color in many of them, rendered them objects of universal admiration." For the table, the Baldwin was considered superior; and the Rhode Island Greening, after (like a "raw Vermonter")

exciting their laughter by its "green" exterior, was pronounced "excellent for general purposes," nevertheless.

In speaking of the apples from the royal gardens, the report, after naming some, continues, "and the Jefferson, which is a new American variety, of excellent quality and great beauty." This will be information to many of our readers. We presume, the kind known in New York as the "Jefferson County," is the one alluded to. If any of our friends have had any experience with this kind, we should be glad to receive it.

Fairmount Park.—Our fellow citizens are becoming impatient at the conduct of their representatives in Councils. A large sum of money has been paid by private persons, to present a large addition to the Fairmount Park, and we now see our "city fathers" allowing the place to be occupied by picnic parties, the trees neglected and injured—because, forsooth, they are afraid of the foreign voters! This will not do. The native vote demands attention to the wants and wishes of a great city, and a Park we must have. Let the present incumbents say or do what they will, public sentiment demands action in a matter to which Councils are committed by their own acts, no less than by legislative command in the law consolidating the great city of Philadelphia.

If Councils will authorize it, and prevent the overrunning of the Park by picnic parties, we would undertake to enlist a sufficient number of our friends—the gardeners—to supply a great amount of trees gratuitously, if necessary. Plant these, make a good sward, and a few roads and paths, and the thing is ready for a finish whenever educated men control our local legislation. Let us have no jobs.

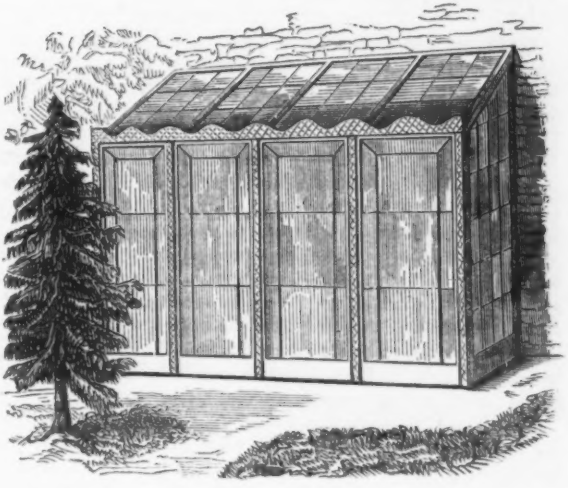
Botanical Explorers.—Fraser's name often occurs among the early botanical explorers of this country, and it is given to several plants, including a fine Rhododendron. The elder Fraser visited Newfoundland previous to the year 1784, and commenced his researches in the Southern States in 1785. Michaux, in his first expedition to the mountains, in 1787, speaks of having travelled with him for several days. Under the patronage of the Russian government, he returned to this country in 1799, accompanied by his eldest son, and revisited the mountains. It was Mr. Fraser's good fortune to discover and collect living specimens of the new and splendid Rhododendron Catawbiense, from which so many hybrid varieties have since been obtained by skilful cultivators. The father and son revisited the Southern States in 1807, and the latter, after the decease of the father, in 1811, returned to this country, and continued his indefatigable labors till 1817. Lyon and Pursh, both gardeners to Mr. Hamilton, of Philadelphia, next visited the wilds of the Southwest. Kin (a queer German) next investigated this great botanical region; and then came Nuttall. Dr. Gray subsequently made a tour to the mountains of Carolina, and published his account in Silliman's *Journal*, from which these facts and dates are taken.

All these explorers have given more or less attention to the scenery—Bartram, especially; and we are tempted to requote from Dr. Gray, who credits the following description of the *Roan Mountain* to Professor Mitchell:—

"With the exception of a body of granite rocks, looking like the ruins of an old castle, near its southwestern extremity, the top of the *Roan* may be described as a vast meadow, about nine miles in length, and with a maximum elevation of six thousand and thirty feet, without a tree to obstruct the prospect, where a person may gallop his horse for a mile or two, with Carolina at his feet, on one side, and Tennessee on the other, and a green ocean of mountains, raised into tremendous billows, immediately about him. It is the pasture ground for the young horses of the whole country about it during the summer. We found the strawberry here in the greatest abundance, and of the finest quality, in regard to both size and flavor, on the 30th of July." Prof. Mitchell is of Chapel Hill University, N. C.

GREENHOUSES are too often unsightly. Elegance should prevail in a structure, the very object of which is to express ornament and refinement. The expense of construction is no greater for a graceful proportion and good design than a frightful one, stuck all over with meretricious ornamentation. As a rule, elegance is favorable to cheapness, as those lines and angles which most please the eye, are usually those which consume the least amount of material.

The annexed design is for a moderate greenhouse on a south or east wall, within view of the house windows, or communicating with one. The top lights are placed at an angle of 45°. An ornamental moulding or cornice runs along the front, serving as a gutter to carry off the rain. The front sashes extend without interruption from the roof to the ground, one of them opening as the door. The cost of such a structure need not be greater than is usually paid for a homely building, which would be an eye-sore to every person of taste. The accompanying is at once elegant and simple; it consists mostly of glass, the sashes for which being now made with machinery (though we confess not so well as by hand), form a small item of the cost. It affords greater accommodation within than can be had in a structure half timber, and affords ample light.



The eye should never be annoyed, most especially in all that pertains to flower culture.

PAMPAS GRASS.—The Southern States may possess this beautiful ornament; at the North, it is much to be feared it will not succeed. The *Gardeners' Chronicle* gives this description: "A few blades of worthless grass in four months had formed a tuft large enough to be trusted to the unprotected ground; in four months more it had formed a great hemisphere of gracefully curving leaves. When winter came it went to rest; with warm weather it roused itself, and immediately commenced a gradual overflow of beautiful foliage, till in six months more it stood revealed in all the grace and majesty of its nature. It might be described as a fountain of vegetation, acquiring more and more force from day to day, till at last the gushing fluid sprang up into jets of living silver."

MOSQUITO POWDER.—In the new book of travels by Mr. Fortune, whose services we are happy to know have been engaged by the Patent Office at Washington, there is a receipt for the composition of the mosquito powder mentioned by other visitors of China as eminently successful in dispersing these nuisances. What "nu-wang" is, we are not informed. "The persons employed, at the end of two months, ascertained that the ingredients were pine

and juniper sawings, wormwood leaves, and tobacco leaves reduced to powder, a small portion of nu-wang, and arsenic. The quantity of the latter is exceedingly small, and can hardly be injurious to health. The odor is not at all disagreeable, "not more so than the incense which is burned in every Chinaman's house who can afford the luxury. It is no luxury to the mosquito, however, for, in two or three minutes after it is ignited, not a buzz is heard, or mosquito seen. Mr. Fortune ascertained the proportion of the ingredients, and the different forms in which it is for sale. One of these is in little coils, one hundred of which may be bought for a sum equivalent to three pence of our money, and two of them will suffice for a night, in an ordinary-sized room."

Frames for Hothouses.—At a late meeting of the London Horticultural Society, Mr. Howlett, a gardener of Norwich, sent a better model of his new plan of shading and protecting hothouses than that furnished by him at the great manufacturers' show at Chiswick, in June last. He covers the outside of the entire roof of the house with what may be called a Venetian blind, made of thin boards, opening and shutting by means of a quadrant which can be set to any angle at which it may be thought proper to fix the louvres. Of course in this, as in most other matters connected with gardening, expense is an important item, and on this point Mr. Howlett says: "I have had estimates made of the cost of fixing, and I find that 6*d*. per superficial foot would be about the cost. I am not," he adds, "so sanguine as to expect that, at that price, people would cover more than a small portion of their glass; but I think that for fern, orchid, and propagating houses, it would be found convenient and valuable." We think so, too. From the same was also a model of a shutter for protecting cold pits and frames in winter. This was a black, water-proof canvas, stretched over skeleton wooden frames, which are intended to be laid over mats, Frigi domo, or other protecting materials, to keep them dry, and therefore add to their durability and efficiency. These frames are stiffened by means of diagonal braces.

Cratægus.—At the same time, from the garden of the Society, came branches loaded with ripe fruit of the following Cratæguses, which are at present extremely ornamental, and in this respect, perhaps the best of their kinds, viz: Aronia, Leeana, Orientalis, Macracantha, Coccinea, and Punctata brevispina. Of these, Leeana had fruit nearly as large and showy as that of a Siberian Crab; that of Aronia was pale yellow, and tolerably good to eat; Orientalis and Punctata had dull red port-wine colored fruit; Coccinea, large and bright red, while that of Macracantha was brilliant red, with a beautifully smooth, polished surface. It will thus be seen that these Cratæguses are objects of great ornament in autumn when they are in fruit.

Bulbs.—It has been a fine December for planting bulbous roots, and the probability is, there will be a good display of these flowers next spring. As an instance of interest in this line, we may mention that such was the enthusiasm of Mr. G. C. Thorburn (now of Newark, N. J.), in order to ascertain whether it was soil or climate that so much weakened the second and after years' growth of foreign bulbs, that he actually *imported* from Holland, one autumn, two large barrels of the finest soil from a hyacinth nursery, and made one bed entirely of it, removing all the original soil. The result was a most magnificent bloom—the admiration of thousands of his visitors. He carefully took up these bulbs in June, and dried them in the shade. They shrunk fifty per cent., and, on replacing them carefully, in the fall, he had the mortification to find them flower next year, weak and feeble stemmed, with not over half the bells which were on them the first year. So it must have been the climate; our warm and exciting rains of May and June, and the heat, are too much for them.

Mr. Thorburn was, we understand, the first to introduce crocus pots for winter flowering

of those lovely little pets. His instructions say: "Leave out the pots with crocus, etc., to make them hardy, as the longer they are out in the atmosphere the stronger they flower in doors, when it is too cold to leave them out day and night; in the mean time, take my advice, and use them roughly. Unless a very hard frost (25° or 20°), don't bring them in, let them have the rain (as much as falls), as it is a well known fact, that a bulb of hyacinth in a pot never begins to grow well until *the pots are well filled with its silvery roots;* then, it thinks of shooting upward, which the genial warmth of the house favors. Hyacinths or tulips never deteriorate from double to single, but, in our climate, degenerate into mere small flowers with numerous offshoots. It is a fact, that after the first year, both hyacinths and crocus dwindle to half their size, and never flower as strong as when first imported and flowered."

Ladies' Dresses.—The *Westminster Review* has taken up the topic of crinoline, and thus alludes to inconveniences that, doubtless, some of our readers will recognize: "The most delicate flowers in the garden are cut off by the ladies' hems as they walk the path, and the little greenhouse is no place for such tragedy queens; they cannot move without knocking down half a dozen pots."

Trees near Smoky Towns.—We are sometimes asked to give a list of trees, shrubs, and flowers, that will grow in or near smoky towns and cities. The following contains such a catalogue, and may be usefully consulted even for places where smoke is not seen, but where the evident effects of a close population prevent many things from fully prospering:—

TREES THAT WILL LIVE IN OR NEAR SMOKY TOWNS.

Acer palmata (Hand-leaved Sycamore).—Handsome foliage and branches.

Carpinus (the Hornbeam).—This close-twigged, bushy-growing tree is sometimes seen in such a situation of considerable size.

Cratægus (the Thorn).—Several varieties of Thorns will live in the neighborhood of towns, provided the soil is dry and deep.

Cytissus (the Laburnum).—This half-shrubby tree can be recommended for the heart of towns.

Platanus occidentalis (the Western Plane-Tree).—This is the very best for planting near cities or towns.

Populus.—Some Poplars thrive in a middling way in towns. The best is the Balsam Poplar (*Populus balsamifera*).

Sambucus (the Elder).—This is scarcely a tree, but it has the quality of being very hardy in all places. Plant it where nothing else will grow.

Tilia (the Lime).—At a small distance from the town, the Lime may be planted. It loves a dry, deep soil.

SHRUBS.

Aucuba japonica (the Golden-spotted Japan Laurel).—This evergreen shrub seems almost created to bear the smoke with impunity. Where the common Laurel, Box, and others languish and die, this hardy Eastern plant flourishes well. Hardy though it is in Philadelphia, it will not bear the strong currents near high buildings nor exposure to the winter sun.

Berberis aquifolia.—A well-known evergreen dwarf shrub, with early yellow flowers, succeeded by purple berries. Very handsome shining foliage.

Buxus (Box-Tree).—Well-known as a perfectly hardy evergreen near Philadelphia and New York.

Ilex (the Holly).—This shrub thrives very fairly in such situations, provided a deep, good, dry loam is present.

Ruscus aculeatus.—Not very handsome, but bears smoke well.

In addition to the above, we would recommend the common Lilac, Syringa, and Snowberry shrubs, that will live almost anywhere, provided care is taken to thin their branches out, and destroy the suckers annually.

FLOWERS.

The list of flowers that will live in or near large, smoky towns, is, of necessity, but scanty. In general, early flowers do the best, because their foliage has so short an existence that they do not suffer so much as others whose foliage is more persistent. To keep them as healthy as possible under such an unfavorable position, let the syringe and the rose water-pot be in constant use during the growing months.

Anemone japonica.
" vernalis.
Anthericum liliastrum.
Arum Italicum.
Aster, several varieties.
Astrantia major.
Betonica grandiflora.
Caltha palustris flore-pleno.
Campanula glomerata.
Centaurea montana.
" macrophylla.
" macrocephala.
Clematis erecta.
Dielytra formosa.
Doronicum Caucasicum.
Erigeron Villarsii.
Ficaria ranunculoides flore-pleno.
Helianthus multiflorus.
Hemerocallis flava.
" fulva.
Hieracium aurantiacum.
Hypericum elegans.
Iris, many varieties.
Ononis rotundifolius.
Orobus vernus.
Pulmonaria officinalis.
Saxifraga. Many species of Saxifrage bear smoke well. We remember seeing several large patches in the very centre of one of the smokiest of towns.
Solidago minuta.
Trollius Asiaticus.
Veratrum nigrum, fine foliage.
Vinca major and minor.

ANSWERS TO CORRESPONDENTS.—THE CYCLAMENS, &c.—(W. W.) These are very suitable window plants. As soon as the bloom is over, and they show a yellow tinge, refrain from watering, first gradually, and then altogether. When quite withered, remove all decayed foliage, and place the pots in a sheltered situation out of doors, turning them on their sides to exclude rain. In winter, take them in-doors, and as soon as they begin to push, examine the drainage, top dress or repot, and give a little water, increasing it by degrees; smallish pots will answer. Your Dielytra spectabilis should not be over forced; a coolish atmosphere suits it. Daphne indica and odora should be brought into the room from a place where there has been less heat than is usual in parlors, as soon as the flower buds show themselves.

POT POURRI.—This, we presume, is what you mean by "a perfume made of sweet-scented leaves, &c., for fancy jars." Mix half a pound of common salt with a quarter of a pound of saltpetre, a quarter of an ounce of storax, half a dozen cloves, a handful of dried bay leaves, and another handful of dried lavender flowers. This basis of the Pot Pourri will last for years, and you may add to it annually petals of roses and of other fragrant flowers gathered on dry days, as fancy may dictate. By the same rule, you may add, if approved of, powdered benzoin, chips of sandal wood, cinnamon, orris root, and musk. A very excellent Pot Pourri is made, in winter, with a pound of dried rose petals, mixed with four ounces of salt, and two of saltpetre, on which were put eight drops of essence of ambergis, six drops of essence of lemon, four drops of oil of cloves, four drops of oil of lavender, and two drops of essence of bergamot.

(E. S. W.) There is no difficulty in raising verbenas from seed, provided you can obtain

it good. As you have a frame, you should make up a gentle hotbed about the end of February, and as soon as the heat is sweet and moderate, you may sow the seeds of your verbenas either in pots or shallow seed-pans. When the seedlings come up, you should prick them out in pans or shallow boxes, and gradually inure them to bear the open air. Towards the middle of May, you may plant them out in your large beds. Of course you are aware that your beds will have all the colors of the rainbow (excepting, probably, yellow), and will therefore be all alike in that respect. One thing is possible: you may obtain some new and improved varieties; otherwise, we think your beds will not be very interesting.

Greenhouse Climbers, etc.—The following are evergreen climbers for a cool conservatory, and grow very fast and intermediate between shrubby and herbaceous, lasting many years, and getting over the roof very quickly: Cobœa scandens; Maurandya Barclayana, semperflorens, and antirrhinifolia; Rodochiton volubile, and Lophospermum erubescens. The following are hardier still, and more shrubby, but slower in growing: Clematis odorata, cœrulea, and Sieboldii. The following will grow rapidly, and be somewhat shrubby: Dolichos lignosus, Passiflora cœrulea and Cœrulea racemosa, Lonicera japonica, Jasminum revolutum and gracile, and Sollya heterophylla.

Hardy plants that will flower early in the conservatory, are Wallflowers, Deutzias, Weigelas, &c.

Eugenia ugni.—A cool house will suit it in winter, where many degrees of frost would not enter, and any house not kept hot will do for it in summer. The *Guava* is easily managed. If frost is excluded, both plants will do well in a peach house or a vinery where there has not been much artificial heat.

Dielytra spectabilis. (A Constant Reader.)—It can be lifted out of the borders into pots of suitable size at any time after the stems of the plants have died down naturally, or in the spring, just as the crowns are beginning to appear again, which is also a good time to divide the roots. Plants thus lifted, with a little care, into large pots, flower admirably in a cool and airy conservatory. Those lifted in the autumn for frame or other protection, can be excited into flower much earlier.

(A Subscriber, Baltimore County, Md.) Your pear-trees are in good positions. Give them a mulching of manure, and some superphosphate of lime beneath it. Dig this in next spring, adding a couple of handfuls of guano at that time. Let the mulching be as extensive as the limbs, so that the roots will all get the benefit.

The gentleman who dates from —— —— is respectfully informed that —— do not constitute the *whole* of horticulture, nor are —— —— everything. It is Hazlitt, if we remember, who speaks of persons with one idea, thus: "There are people who have but one idea; at least, if they have more, they keep it a secret, for they never talk but of one subject." Abernethy thought his pill a cure for all disorders.

Isaac Dillon, Zanesville, Ohio, calls our attention to an error of the printer, in the December number, where the *Stockade* Pear is called Stockdale.

(S. S.) The Fable of the Trees, to which you allude, is in the ninth chapter of Judges, verses 8–15. Of this Addison said, "Jothan's fable of the trees is the oldest that is extant, and as beautiful as any that have been made since that time."

Grapes.—We have frequent applications to know where the Delaware and Rebecca grapes are to be had. We refer to the advertising pages of this and former months for the information.

Catalogues, etc., received.—Annual Report of the Managers of the Chester County Agricultural Society, West Chester, Pa., with the oration amply interspersed with poetical quotations.

A Descriptive Catalogue of Fruit and Ornamental Trees, Deciduous and Evergreen Trees and Shrubs, Roses, Dahlias, and Flowering Plants, Camellia Japonicas, Azaleas, and other Greenhouse Plants, cultivated and for sale at the Forest Nursery, near Elkton, Todd County, Ky. By J. S. Downer & Son, 1857. Kentucky possesses a soil and climate well adapted to make it a garden, and we are glad to know that it has, in Mr. Downer and his son, most useful, practical, and honest nurserymen, who are distributing with success every variety of trees and ornamental shrubbery which can be procured in America and abroad. Our letters frequently mention the Messrs. Downer with the highest approval. One of our promised pleasures is a revisit to the gardens and farms of Kentucky. Some of Mr. Downer's friends have greatly misunderstood a notice of his former catalogue, which has been explained to him to his entire satisfaction.

Catalogue of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs and Plants, Roses, &c., at the Morris Nurseries. Cultivated and for sale by J. S. Darlington & Co., Westchester, Pa., one of the establishments in which Pennsylvania justly takes a pride.

Mr. Baumann, of Bollwiller, in the Upper Rhine, has issued a Catalogue in English, of the plants he has for sale. It is rich in fruit trees cultivated on the continent of North Europe, in a bad climate, and it has the reputation of the sorts being correctly named.

Catawissa Raspberry.—A circular from Joshua Peirce, of Washington, D. C., setting forth the value of this newly-introduced perpetual fruit, gives opinions in its favor from the best sources. The Catawissa we consider a most valuable introduction. It ripens its berries till hard frost. No doubt it is to be the parent of still better fruit.

J. Jay Smith.—Dear Sir: Isn't the Rebecca Grape a "great institution" for a small one? (I use the above expression to avoid a repetition of the descriptive term, "decided acquisition," which I *think I have seen used semi-occasionally!*) and the Delaware, too? The Rebecca, I think, will nearly answer the requirements which you once suggested to me as very desirable for a new hardy grape. I have one fine young vine of it, obtained, about a year since, from Mr. Brocksbank, which has made a growth so good, the past season, that I shall expect fruit from it soon—possibly a specimen next year. Two bunches of the ripe grapes from Mr. B., were sent to me in the fall of 1856, and were unanimously commended by the leading members of our Horticultural Society. I have the promise of a "copy" of the Delaware, next spring, from a friend, for the reception of which (the vine, not the friend!) I have already provided a border, suitably large, deep, and well composted. By the way, have you, personally, the Hartford Prolific? If not, I should be pleased to present you with one in the spring. [We have not, and being just now greatly interested in the grape, shall be glad of a "copy."—Ed.]

This grape, allow me to say, is destined to take a high rank among hardy native vines, not in your latitude, possibly, but north of New York. We do not claim for it that it is always equal, in every respect, to the Isabella, although many good judges have so pronounced it. But it is of "good" quality, to say the least, and is, invariably, from fifteen to twenty days earlier than the Isabella, with the same exposure, soil, &c. Mr. Chorlton has, on two occasions (in 1856 and 1857), expressed to me an opinion quite favorable as to its merits, generally, and particularly in favor of its being a first-rate wine grape. It will surely surpass the Concord in many desirable points.

Col. Wilder has so far signified his tardy adherence to "our side," as to order from the nursery of J. Mason & Co., of Hartford, this fall, two dozen Hartford Prolifics—a part for fruiting, and a part for propagation.

"*Jam satis.*"—Perhaps I am trespassing upon your time and patience. [Quite the contrary.—Ed.] Yours, respectfully, Daniel S. Dewey, *Hartford, Conn.*

English Wine.—At a late pomological meeting in London, Mr. Wilkins handed round some wine, which he said had been manufactured from his roots of Mangel Wurzel, and was but ten months old. "This," says the *Chronicle*, "for a light wine, was certainly very excellent, and, Mr. Wilkins declared, could be retailed at a profit at 6*d*. per quart bottle. A practical chemist from London stated his opinion that all it wanted was an astringent, which Mr. Wilkins said he had discovered in the hop root, and which would render it a wholesome beverage. We also tasted bread made of one-third of Mangel Wurzel and two-thirds flour, and which was certainly fully equal to the average quality." [We trust none of this wine will find its way to America.—Ed.]

Pruning the Vine.—If gardeners would consult the spade as well as pruning knife, they would avoid disasters. To prune skilfully, a vine planted unskilfully, is like richly furnishing a house built on sand; the foundations give way, and the decorations are crushed in the general ruin. So far as vines are concerned, it would be better to leave them unpruned than to plant them in earth they cannot feed upon, or in places where their roots gangrene at the extremities. The vine requires a strong, dry, warm soil, and people plant it in a light, wet, or cold border. How can the knife make such vines thrive?

Garden Ferns.—It gives us pleasure to refer to an article, in the present number, on ferns; these plants will sooner or later become great favorites with true admirers of the beautiful. Most lovers of a garden contrive to have something a little varied from last year in a part of their grounds. "What have I to do with thee, dull, unjoyous constancy?" sings an old poet, and with some show of reason. Perhaps nothing that will cost less, these hard times, would be more satisfactory than to collect all the hardy ferns from the neighborhood, one or more of each according to the space to be occupied. The situation must be shady, but not wet; neither must it be entirely dry, for though ferns may be seen growing in the hot sun, as a rule they attain their full luxuriance only in the shade.

In addition to the extreme beauty of the foliage, the easy cultivation of most of the plants comprised in the class Cryptogamia, should induce horticulturists to add many of these truly beautiful objects to their collections. We always place a high estimate on the taste of the possessor of a fernery; a hardy one forms a pleasing and attractive feature in garden scenery, and the fine foliage of many of the strong growing kinds produces a glorious effect when seen floating in the breeze. The shape and extent will be best dictated by the owner's fancy, but one thing that is essential, is at least a foot in depth of suitable soil in proximity to the roots. The soil which suits most ferns of moderate growth, is three parts of rather light, fibry peat, and one part turfy loam, not of a stiff character; or leaf mould will be found to answer. This should not be made fine, but used on the surface; if rough pieces occur, so much the better; the finer should be placed nearest the roots. On the surface may be placed blocks of old wood, roots of trees, stones, or anything of a rough appearance, which not only gives a rustic feature in keeping with the plants, but is a direct means of retaining moisture.

The distance between the plants may be three feet for the strongest kinds, and a proportionate distance for smaller; but remember the shade.

It is announced that Dr. Grisebach has undertaken the preparation of a complete *Flora of the West India Islands*, in aid of which the English Treasury has granted £300. A botanist more qualified for the work could hardly have been selected.

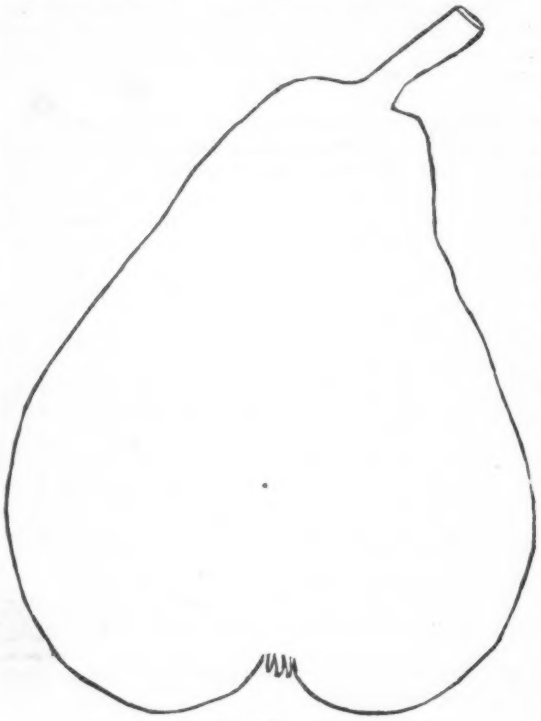
We also learn, from Hooker's *Journal*, that Mr. Chas. Wilford, lately one of the botanical assistants in the herbarium of the Royal Botanic Gardens, Kew, has joined the British Mission to Japan as collector of plants for that establishment. Let us hope that circumstances

will favor his carrying out successfully the object of his mission. In a horticultural point of view, Japan is one of the lands of promise.

The *Flora of the Cape of Good Hope* is reported to be taken up in earnest by Prof. Harvey, of Dublin, who long resided in the colony, and whose materials for the purpose are most ample.

Robert Hogg, of London, has issued Parts 1 and 2 of a *Natural History of the Vegetable Kingdom*, which is well spoken of. It is arranged on the system of Decandolle, and is illustrated.

New Pear—Beurré Clairgeau. By *R. Buist*, Philadelphia.—I send a fine specimen of this superior large pear; its acquaintance will be worth one year's subscription to your friends—ripe in all October. It does well as a dwarf, and the fruit is as fine 12 inches from the ground as 12 feet; not so with many other sorts, viz.:—



Beurré Clairgeau.

Beurré Capiaumont does not succeed as a dwarf; neither fruit nor foliage remains perfect on the tree 6 feet from the ground, but the same tree, when it reaches the height of 8 to 16 feet, is a perfect picture of luxuriant foliage, golden fruit with garnet cheeks and fine quality; *large, full, and plump;* no deformity; so that the same tree in the months of August and September has no foliage near the ground, with fruit cracked, hard sided, black spotted, with a top lustrous with green foliage and pendent with its golden fruit.

We are only in the infant state in regard to fruit culture in this thinking country? Our people will yet be the first fruit growers of the world, and there is no impracticable feature in the banks of the Schuylkill to Port Clinton being all vineyards; even the eastern slopes of the Alleghanies will make admirable vineyards. Your grandchildren will see it, and drink the wines therefrom.

A Garden Jungle.—A correspondent who loves the ornamental, and succeeds in all he undertakes, writes thus: "The most successful thing I had, this year, was a large circular

bed, fifteen feet in diameter, which we called our JUNGLE, filled with Canna major, Arums, Bananas, from the conservatory, the three Dracænas (ferrugiana, terminalis, and the large-leaved one), Musa Cavendishii, and the different Aloes and Yuccas, all planted closely in the ground, a little raised in the middle; they looked, I assure you, perfectly tropical. We only wanted a Palm-tree in the centre, to have imagined ourselves with you in Cuba. You have made us almost crazy by your botanical descriptions of that island; as soon as everything gets *settled* at home, we shall sail for that "fairy isle," and take the *Horticulturist* for the last six months for our guide-book. We have got a little tired of Black Hamburghs and Muscats, and want to eat oranges *off of the trees*, and see a twenty-acre lot of Pine-apples, an Aloe hedge, and a real sugar mill." [Glad to hear it. Go if you can, and are in want of a new sensation.—ED.]

GOSSIP.

—— A REALLY well-flavored wine can only be obtained from grapes at a point of perfect ripeness. In countries where the vintage begins everywhere on the same day, much wine is necessarily pressed from the unripe or over-ripe fruits. Tokay is extracted from grapes which have been not only allowed to get over-ripe, but partially to dry upon the vines. When the grapes are allowed to dry on the vines, the wine is called dry wine; when they are dried on straw, straw wine; when the juice is evaporated by heat, boiled wine; cane-sugar, beet-root, or potato syrup, is introduced; nor can the admixture be afterwards detected. Raisin juice often enriches the poorer German's bottle, in which fermentation is rarely produced; chalk extracts the free acids. Professor Mulder tells us, the custom formerly prevailed in France of allowing a working-man to go into the vat, the temperature of his body promoting fermentation; individuals were thus killed by the carbonic acid.

—— Parrots are known to love wine; it makes them very jolly and talkative. Pliny mentions this: "She loveth wine well, and when she hath drunk freely, is very pleasant, playful, and wanton." It is a question whether birds do not, in some degree, at least, understand what has been taught them. When dinner was brought up in the presence of a parrot, she was in the habit of crying: "Bring Polly's sop," till something from the table was given to it. If a bottle of ale or wine was brought in, it would say: "Waiter! waiter! a bottle of wine, and a cigar." The bird would shuffle after a dog, crying: "I'm coming! I'm coming!" The aptness with which it applied the words to the object, confirmed the impression of her understanding their import.

—— By the spread of education—real education of the mind and manners of man—many facilities of enjoyment are given at a cheap cost, within reach of multitudes. By this means, the book of nature is laid open before him, and he is enabled, with a little self-control and perseverance, to taste some of those innocent pleasures which give double value to the green fields and fresh air of his holiday. Some knowledge of the birds and flowers is within reach of the humblest observer who can win some minutes from toil and trouble to breathe the air of freedom.

—— "We have," says the *London Chronicle*, "from Mr. Rivers, specimens of the true old Golden Pippin, gathered from a tree eighty years old, planted by his grandfather. They have the same delicious smack that gave the sort so great a reputation. The young trees grafted from the old stock are more healthy than they have been for many a long year; nor, indeed, have they for some years been so subject to canker as they used to be thirty or forty years ago. We cannot but wonder that those who place fruit-trees on a level with the supplemental noses of the great Taliacotius, should not have remarked that the so-called wearing-out of races is unknown in the warm climates of continental Europe."

—— At the late fair at Stockton, California, among the prizes offered was a $50 dress to the unmarried lady who made the best loaf of bread.

—— A fruitful source of injury to many plants in greenhouses, is allowing them to stand on a damp medium, which often clogs up the drainage, and injures the foliage by a miasmatical vapor that frequently rises about them, especially when the house is shut up.

—— In a grapery, if you have the space, it is not a bad practice to have two vines to each rafter. Allow one of these to bear as much as it will, and, when exhausted, remove it; cut the other down in the winter pruning, and take only a little fruit from it for two or three years, in the usual manner.

—— Plants of Dielytra spectabilis raised from seeds, are much more prolific of flowers than from cuttings.

—— There is no plant that would appreciate the use of liquid manure during the rest period. It has been given, for experiment's sake, to Justicias, Veronicas, &c., under pot culture, and to apple-trees and gooseberry bushes, in the open ground, while in a dormant state; but in no case has the result been in favor of its use.

—— Ransoms' artificial stone has attained considerable celebrity in England. Professors Henry Faraday, Hunt, and Garrod, Sir Henry de La Beche, Mr. Phillips, the geologist, and many other eminent scientific men, have described it as one of the most useful inventions of the age, not merely for garden decoration, but for the manufacture of mill-stones, filters, and for all architectural and building purposes for which stone would otherwise be employed. It is much used for garden ornaments, which are beautiful and cheap.

—— Some readers will doubt when we tell them that fine white candles, of the best quality, are made from the peat of the Irish bogs, and yet it is true. The average thickness of this peat is twenty-five feet, nowhere less than twelve, and never exceeding forty-two. The chemist converts it to paraffine, and this is an admirable substance for making candles. These former fuel mines are estimated to extend over 2,900,000 acres, and, by this process, the land will become tillable. We have seen the candles in Philadelphia; they rival the best wax-lights in brilliancy of combustion.

—— The revenue from perfumes equals 200,000 dollars a year in England. So enormous is the consumption, that *flower farms* are now established; they exist both in Europe and Asia, and another is to be established in Australia. England has her flower farm at Mitchum, in Surrey, where lavender and peppermint flourish unrivalled. Roses are also cultivated there, merely for the purpose of making rose-water.

—— In the preparation of some wines, the skins and stones, and, in some cases, the stalks, are allowed to ferment with the juice, the purple and white skins yielding tannic acid, while only in the former does any coloring matter exist. A considerable quantity of white wax may be obtained from grape-skins by means of boiling alcohol. The stones are remarkable as containing a considerable quantity both of tannic acid and a fatty oil, the amount of which Ray reckons at more than ten millions of pounds weight, annually, for France alone. He considers it as well suited for food as for burning. Bender, of Coblentz, convinced himself that it was not worth the expense of pressing. Zeimer found it disagreeable to smell and taste; but it has been suggested by others to roast grape-stones, and use them instead of coffee. The stalks have a sharp, astringent flavor, and if treated with water and salt of oxide of iron, yield tannic acid.

—— Certain tribes of mosses take possession of the scanty soil formed by lichens, and more rapidly increase its amount; while others, of aquatic habits, convert shallow pools into quaking bogs, and create, in time, vast accumulations of vegetable matter, in the form of peat. These are truly *servi*, as Linnæus termed them—servants to the nobler plants which soon succeed them. For then come the ferns, the colonists, after lichens have furnished them a foothold on the rocks, or mosses given them one in the spongy and unstable

morass; these are the precursors of grasses, rushes, and other plants of more immediate importance to man and the higher animals, but which never would come to perfection if left, like their humble but indispensable predecessors, to draw an unaided subsistence directly from the inorganic world. It is thus that the bare earth is at length enabled to support the sturdy forest, or the rich field of waving grain.

—— As you ramble through the corn-fields, and see the shadows running over them, remember that every cloud which floats in the blue deep, retards the vital activity of every plant on which its shadows fall. "Look on all flowers, fruits, and leaves," says Blumen, "as air-woven children of the light. Far away blazes that great centre of force, the sun, which spans those millions upon millions of miles, and brings us and the sun together. From it issues the mystic influence, striking the electric chain wherewith we're darkly bound. For myriads and myriads of years has this radiation of force gone on; and now stored up force lies quiescent in coal fields of vast extent, once all pure sunlight, hurrying through the silent air, passing into primeval forests before man was made, and now lying black, quiet, slumbering, but ready to wake into blazing activity at the bidding of human skill. From light the coal-fields came; to light they return. From light come the prairies and meadow-lands, the heathery moors, the reedy swamps, the solemn forests, and the smiling corn-fields, orchards, gardens; all are air-woven children of light. Now we understand why men are sickly and stunted who live in narrow streets, alleys, and cellars, compared with those who, under similar conditions of poverty and dirt, live in the sunlight. In bright sunlight, as much as one-fifth more carbonic acid is expired than in feeble light. And have not all farmers and cattle breeders unconsciously paid tribute to this principle, by keeping their animals in the dark to fatten them?"

—— Notwithstanding the variety in the quantity of sensible moisture present on different days, in the Eastern States, the average of this condition is very low, no forms of vegetation indicating its abundance. Forests are free from mosses, except at the elevated points, and for the Central States, the forms of succulent vegetation are very much restricted, the grasses and other things giving evidence of aridity as the distinguishing feature, and failing to cover the surface with a constant growth. The limit of this permanence of the English grasses without cultivation, is about the 40th parallel; and soon after leaving Philadelphia southward, they become sensitive to the aridity of summer, and require careful cultivation. South of the 38th parallel, they are difficult to possess under any circumstances.

—— A curious bet was made, a hundred years ago, between Lords Rockingham and Orford, for five hundred guineas, as to whether five turkeys or five geese would in the shortest time perform a journey from Norwich to London. The result indicated Lord Orford's sagacity, for, though at first the turkeys had it all their own way, the geese waddled past them at night, while they were lazily roosting in the trees, beside the hedgerow. There is a moral in this which the reader will readily apply.

MISCELLANEA.

GRAPES IN CALIFORNIA.—As a source of future revenue to the State, it may not be inappropriate to state that the wine interests are receiving a new impetus. A company has been formed, the sphere of whose operations is in the vicinity of Los Angeles, and preparations are in progress for cultivating the grape on a scale unequalled in any of the most favorite wine-growing countries. The Directors of the Los Angeles Vineyard Society held a meeting in this city a few evenings since, and had occasion to sell four shares of their stock. These shares, which are worth $750 at par, were sold at $795. The stock is not in the market for sale on speculation, and the shares are held mostly by persons who intend

to make their homesteads on the land already purchased by the Society on the Santa Anna River, in Los Angeles County, as soon as the vines shall begin to bear.

Tobacco is also a product which must hereafter receive much attention. Experiments have fully proven the adaptiveness of the soil of many portions of the State. The soil and climate of the Sacramento Valley, as well as that of the southern counties, is admirably adapted to its growth. The same may be said of cotton, which eventually must become one of our leading staples. A company has also been formed for the prosecution of the rice culture, and a large tract of land is now in process of preparation, in San Joaquin County, with this view.—*San Francisco Shipping List.*

Syrian Peach.—At the late British Pomological Society, Mr. Veitch exhibited specimens of the Syrian Peach—the type of a new race of peaches, as the Stanwick is among Nectarines. It has a small kernel. The flesh separates freely from the stone, is very melting and sweet, and has a remarkably fine and rich flavor.

New Cherry.—At the same time, Mr. Rivers brought specimens of Belle Agathe Cherry —a variety about the size of a Merry, and heart-shaped, with a firm, Bigarreau flesh, and of excellent flavor. The color is dark red." A Cherry in October is valuable, and one which the birds and insects will not touch, is doubly so. Belle de Septembre Plum is a very excellent kitchen variety, with rather more flavor than kitchen varieties usually have late in the season. We have seen it cooked, and its juice is of a beautiful, lively crimson, as if colored with cochineal. It also makes an excellent preserve."

Eugenia ugni.—The report of the meeting, in the *Cottage Gardener*, says: "Mr. Turner brought a dish of the fruit of Eugenia ugni, grown at Slough, in the open air. They were the size and shape of the berries of the Hawthorn, and pretty much the same color, but perfectly ripe. The taste is that of the Black Currant flavored with allspice, and without its prevailing acid, being, in fact, rather sweet. This fruit is certainly very agreeable to taste, but we do not think it is one which can be eaten to any extent, or which will establish itself as a recognized fruit in this country. It wants succulence, as its substance is rather dry. When novelty has passed, and other subjects have engrossed public attention, Eugenia ugni, as a fruit-bearing shrub, will, in our opinion, retire to enjoy a quiet respectability among other half-hardy exotics. Should it be otherwise, the taste of the fruit-eating portion of society must materially alter." [This statement has, we see, brought out dissenting remarks, some declaring the fruit exhibited was not ripe.—Ed.]

Fruit-Gathering Instrument.—At the same time, was exhibited a fruit-gathering instrument, thus described: "The apparatus consists of a rod, which may be of any length (say six feet or three feet), and on the end of it is placed a movable contrivance composed of two rings, which meet and part like a pair of shears, and these rings are covered with a disk of vulcanized India rubber. They are worked by means of a sort of trigger, which is at the hand end of the rod, and when they clasp the fruit, the two disks of India rubber yield to the pressure, and the fruit is gathered uninjured. In place of these disks, Mr. Jones can also fix a netted bag and a cutting and holding apparatus for gathering grapes. This is a very desirable invention, and cannot fail to come into general use among amateurs and ladies who do not care to mount a ladder, or risk the safety of their necks by practising gymnastics up a pear-tree." [Is not this very much the same as one patented in America? —Ed.]

Uses of the Potato.—In France, the farina is largely used for culinary purposes. The famed gravies, sauces, and soups of France are largely indebted for their excellence to that

source, and its bread and pastry equally so; while a great deal of the so-called cognac from France is the produce of the potato. Throughout Germany, the same uses are common; and, in Poland, the manufacture of spirit from the potato is a most extensive trade. "Stettin brandy," well known in commerce, is largely imported into England, and is sent from thence to many of our foreign possessions as the produce of the grape, and is placed on many a table of England as the same; while the fair ladies of our general country perfume themselves with the spirit of potato under the designation *Eau de Cologne*. But there are other uses which this esculent is turned to abroad. After extracting the farina, the pulp is manufactured into ornamental articles, such as picture-frames, snuff-boxes, and several descriptions of toys; and the water that runs from it in the process of manufacture, is a most valuable scourer. For perfectly cleansing woollens and such-like articles, it is the housewife's panacea; and if the washerwoman happens to have chilblains, she becomes cured by the operation.—*Paper read before the British Association.*

A "Model" Advertisement.—We take the following from an English paper: "J. J. Foster, after eight years' trial, has found the rose 'Descartes' the best for stocks. Price, 12*s.* per 100. Manetti stocks given away." Here is a starting-point for a horticultural "gift enterprise," certainly.

Notes for the Month.

JANUARY.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

Pruning the vines may be continued in any mild or moderately cool, dry weather during this month. No injury to the vines has yet been observed from winter pruning in good weather.

It is usual to rack off the new wine in this month. Select a clear day. Draw the wine off carefully, and put it into a cask made perfectly clean by scalding water, then rinsed out with cool water, and fumigated with a sulphur match. The lees are thrown on the manure pile, or given to the distillers with the pomace of the grapes, to make brandy. In the vicinity of a large city, the lees sell at thirty to forty cents per gallon, and the pomace at $1 50 to $2 per barrel. About five or six gallons of the former, or one and one-third barrel of the latter, will make a gallon of brandy. The distiller retains one-half for making it.

Examine the wine every week or ten days, fill up, and keep the casks bung full, and the bungs tight. Nothing else is requisite until May, when the second fermentation takes place; then the bungs are to be left loose, that the gas may escape. In eight or ten days this fermentation will cease; the casks are then to be filled up, and the bungs, with clean linen rags wrapped around them, driven tight.

BY WILLIAM SAUNDERS.

Vegetable Garden.—In choosing a situation for the culture of vegetables, that which affords the most shelter should have a careful consideration. The best situation and aspect is one having a southwest slope, backed on the north and east points by a shelter of trees sufficiently distant to break the force of winds without interfering with the crops. This is perhaps of more importance than the natural adaptability of the soil. The operations of culture will constantly tend to alter and improve the soil. A free loam will be found most suitable, and if resting on a somewhat clayey subsoil, it will produce heavier crops, and require less manure than where the subsoil is of a gravelly or sandy character. Draining will be indispensable as a permanent foundation for the gradual improvement and amelioration of such soils. A clayey soil also requires more care in its cultivation, but this will be more than counterbalanced by its capacity of production. Light, sandy soils are, in general, earlier; much, however, will depend upon the situation. A clayey loam, well

drained and sheltered, will be at least as early as a sandy loam on an exposure; and the great superiority of the former, for general purposes, is such as to render it the most desirable. A principal feature in the management of clayey soils, is to turn them over roughly, exposing as much surface as possible to the action of frosts. This is a very important matter, and has the effect of rendering clayey soils capable of being cropped as early as those where sand predominates.

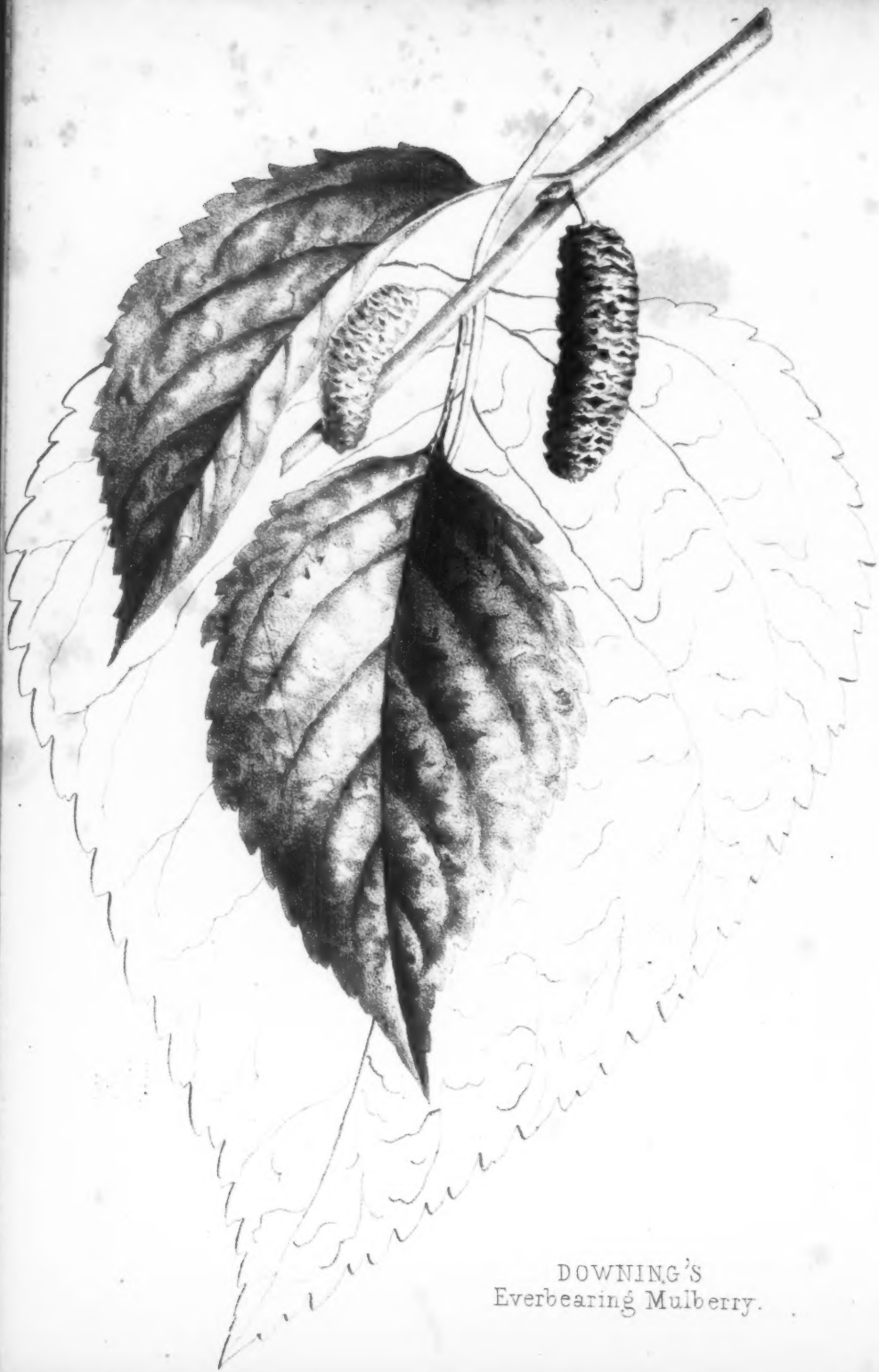
Fruit.—Fig-trees are not sufficiently hardy to stand northern winters without protection; they may, however, be preserved, by bending them down, and covering with soil. They are rather rigid when they get old, but a slight twisting will rather improve their fruiting. They may be grown in pots or boxes, preserved in the cellar, or under a greenhouse staging, during winter, and set out on the lawn, in a sheltered position, during summer. When the leaves fall in autumn, they should be kept dry until growth commences in spring. Poor soil is best for them, and water copiously during growth. Orange and lemon-trees may be wintered in cellars, but they must be kept dry, unless the air is dried artificially, when they may require an occasional application; they will stand many degrees of frost when the soil is kept dry. It is related that, on opening a house in Paris which had been closed for two years, several orange-trees were found alive, although they had not received any water or artificial heat during that time. There is reason to believe that they may be preserved, during winter, in barns or out buildings, if kept dry and dark.

Greenhouse.—Spring flowering bulbs are a great attraction in a greenhouse, and their management a simple matter. About September, the bulbs, having for some time previous been dormant and dry, should be repotted, and set up on the shelf, water being applied in increased quantities as they proceed in growth. Early in spring, they will be in flower. Towards the end of summer they will lose their foliage, and rest for a period, and undergo a similar routine of treatment. Lachenalias, Ixias, Babianas, Sparaxis, Alstromerias, Hesperanthas, and Oxalis, are the kinds alluded to.

The management of the atmosphere, with regard to ventilation and humidity, will now be an important consideration. In artificial temperatures there are, constantly, numerous counteracting agencies at work, destroying the natural purity of the air, either by the formation of injurious gases, or extraction of moisture; the latter was a frequent, unsuspected cause of failure. There are few houses supplied with a hygrometer, although it is as much necessary as a thermometer, the proper balancing of the atmosphere, with regard to moisture, being equally important to the health of plants as the degrees of heat and cold.

Extraction of moisture is the principal cause of disarrangement in the atmosphere. As the temperature rises, the capacity of the air for containing moisture increases, and if not supplied by other means, this water will be extracted from the plants. The amount of water carried into the air will be seen by the deposition of ice on the inner surface of the glass after a frosty night. Shallow pans containing water, should be kept on the flues or hot-water pipes; for, although the latter radiate heat at a lower temperature than brick flues, they supply no moisture. The common *say* that "pipes gives out a moist heat," has no foundation in truth.

Planting Trees.—The system of removing large trees with balls of frozen earth, is frequently practised, and occasionally may be recommended; but is a very expensive process, and by no means justifiable as a general system. No amount of soil, frozen, or otherwise, will compensate for the destruction of roots, and to remove all the soil occupied by them is simply impracticable. The larger and older the tree, the further will the roots extend, and, consequently, the fewer of them can he secured in a limited space. There is great want of discriminating judgment shown in this matter of lifting large trees. It seems to be an opinion with many that, provided they lift a ton or two of soil with a tree, success must be certain. The stunted appearance of such trees, even if they live, ought to convince planters that the process *will not pay*. *To secure a healthy growth, the branches must be reduced in a corresponding ratio with the reduction of roots.* It is roots, then, and not soil, that ought to be removed; and the roots can only be traced and secured when both the soil and the air are free of frost. The amount of pruning that the branches require, must be left to the judgment of a competent and experienced planter. During the progress of removal, he will ascertain the amount of root mutilation, and he will be further guided by the kind, age, and health of the tree that is being operated upon, all of which will exert a special influence in controlling his future management and care. Occasionally, we meet with instances where success has been all that could be desired; but all practice not founded upon principle is empirical. Such practice may be successful, because it may, by chance, be founded upon a natural law; but this being unknown, no continuance of success can be secured, and all the future is uncertainty.



DOWNING'S
Everbearing Mulberry.